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Farm Restructuring in Kazakhstan: An Institutional Economics Approach

by

Kelley Cormier

**Department of
Agricultural Economics
MICHIGAN STATE
UNIVERSITY
East Lansing, MI
48824-1039**

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By:
Kelley Cormier
cormier2@msu.edu

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CHAPTER ONE: INTRODUCTION

1.1 Background and Problem Statement

Broad institutional changes, which occurred after Kazakhstan separated from the Soviet Union in 1991, direct performance in the agricultural sector by either creating costs for farmers or shifting costs away. First, the new government called for mass decollectivization¹ that resulted in the emergence of private farm governance structures that were neither financially viable nor efficient. Second, in 1995, a Land Code was established that introduced a system to demarcate collective and state farmland, yet land remains the property of the state. Third, bankruptcy legislation and a rural tax system were designed for the new private farm enterprises. These broad institutional changes resulted in an agricultural sector with high levels of transaction costs and uncertainty for farmers where barter trade predominates on the open market. The problems inherent in the farm restructuring process are largely institutional and therefore lend themselves well to being analyzed within an institutional framework.

Since 1991, much has been written about how best to reform agriculture in the former Soviet Union (FSU). Most policy makers agreed at the onset of reform that the best strategy of ensuring economic success of the sector was to decollectivize agriculture. Not included in this strategy were recommendations for how new farm structures would operate in the evolving institutional environment. Western development strategies have introduced a variety of organizational structures for adoption by farm managers. Some of these strategies were adopted and resulted in collective and state farms decollectivizing

¹ When referring to the agriculture sector in Kazakhstan, *decollectivization* means to shift state assets from kolkhoz and sovkhos farms into private hands.

into partnerships with limited liability, production cooperatives, joint-stock companies and small private farms. It has since become evident that these structures are not necessarily functional given the rest of the existing institutional framework.

This paper will draw primarily from literature in institutional economics to analyze the Kazakhstani farm restructuring process and will employ institutional impact analysis to examine alternative structural arrangements that shift transaction costs away from farm enterprises. Since the institutional environment of the agricultural sector impacts sectoral performance and will only gradually improve to meet the demands of a transitional economy, a careful assessment of adopted western farm structures in Kazakhstan is called for. This paper takes an important step to that end by determining the enabling and constraining factors on alternative farm structures.

Early on in the field research it became apparent that all emerging farm structures, whether production cooperatives, partnerships with limited-liability or small private farms, suffered from high levels of inefficiency as a result of operating in an environment of high transaction costs. It will be shown in this paper that, given an institutional environment wrought with high transaction costs, managers of current farm structures have limited opportunities for creating performance outcomes that can alleviate transitional difficulties now faced by farmers in Kazakhstan. It will be argued, however, that performance differs among farm structures, and the reasons for these differences will be discussed.

The primary research question explores interdependency created by transaction costs. This paper examines how new farm structures respond to high transaction costs for two reasons. First, production levels have dropped by 55 percent overall between 1991

and 1998 (Gray 2000), indicating a need to clearly define the situation. Second, there has been a call for comprehensive institutional reform, but strategies need to be refined to target the unique situations faced by the different farm types. This study sets the groundwork for refining a strategy for institutional reform in the agricultural sector by using an institutional economics approach that applies Allan Schmid's (1978) situation-structure-performance (SSP) analytical tool to assess how emerging farm structures direct performance outcomes. It is hoped that future work will build on the evidence provided by this research in order to develop more effective institutional prescriptions to enable the functioning of markets in the agricultural sector of Kazakhstan.

1.2 Research Objectives

Using the case of farm restructuring in Kazakhstan, the objective of this paper is to contribute to institutional economic theory and expand its empirical database by:

- Using case studies to illustrate how alternative farm governance structures respond to a situation of high transaction costs.
- Analyzing how the interaction between a situation of high transaction costs and observed institutional structures affect performance outcomes in the Kazakhstani agricultural sector.
- Drawing lessons from the Kazakhstani agricultural reform experience to propose the development of new alternative institutions that could facilitate further agricultural reform.

The situation-structure-performance paradigm applies institutional impact analysis to evaluate the process of farm restructuring in Kazakhstan. The situation is

characterized by high transaction costs in information, contracting, input acquisition, asset specificity, and uncertain future states of the world. These transaction costs are what create interdependency between players in the Kazakhstani agricultural sector. The key structural variables, which were applied to the situation, are institutional alternatives that determine whose interests count. Different farms chose some of these alternatives, and public policy selected others. The key dimensions of performance examined in the study are frequency of transaction, access to information sources, and terms of trade.

Historically, the farms studied in this analysis existed in their present form from one to five years, rendering the farm structure difficult to describe over time. Hence, much remains to be learned about how to achieve desired performance outcomes in Kazakhstani's agricultural sector. It is this dynamic, continually evolving nature of farm institutions that suggests that analytically an institutional approach offers the best methodology for isolating and addressing economic incongruities. This paper, therefore, takes a look at the outcomes of agricultural reform thus far in Kazakhstan. While the study stops short of prescribing alternative institutional structures that could direct further agricultural reforms, it will inform the process.

1.3 Outline of Paper

The remainder of this paper is as follows. Chapter 2 begins with a review of the theoretical work on transaction costs, emphasizing the work of Oliver Williamson (1975; 1979; 1985; 1987; 1991; 1994) and Douglass North (1990). The chapter continues by developing a conceptual framework with which to analyze Kazakhstan's agricultural reform environment, based on Schmid's situation-structure-performance (SSP) paradigm.

Also included in this chapter is an outline of testable hypotheses and research methods employed. The chapter concludes with a discussion of data sources used in the study.

Chapter 3 describes the situation in the post-Soviet Kazakhstan agricultural sector and the nature of the goods in question. Chapter 4 employs SSP in implementing an impact analysis to examine how alternative structural variables impact performance outcomes.

The chapter concludes with a discussion of possible alternative institutional structures.

Chapter 5 presents a summary of key lessons and a discussion of policy recommendations that could direct future research.

CHAPTER TWO: LITERATURE REVIEW AND RESEARCH APPROACH

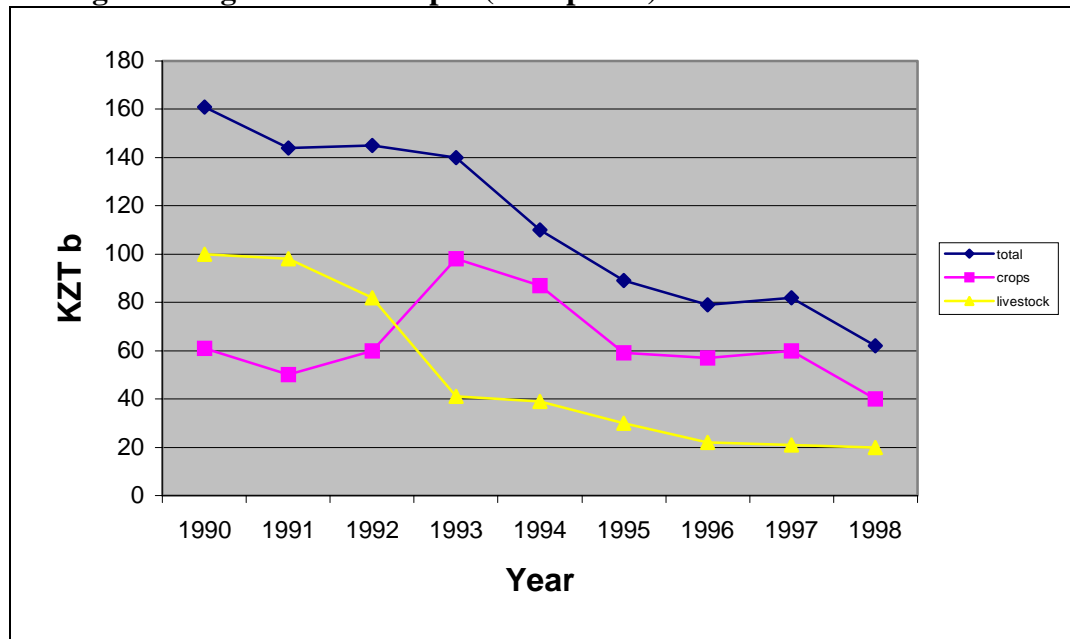
2.1 Literature Review: Transaction Costs and Institutional Change

Analysts of post-Soviet economic reform agree that the widely adopted “shock” reform strategies, comprised primarily of recommendations to privatize state assets, resulted in severe market inefficiencies and social decline (Stiglitz 1994; Brooks 1994; Lerman 1994; Csaki 1994; Bromley 2000). The transitional period currently experienced in Kazakhstan is no exception. A policy and institutional reform package implemented for the agricultural sector resulted in the following economic situation. Land remains the property of the state. Local commodity marketing is under state control. The majority of restructured farm enterprises are not financially sustainable and their legal status is not representative of actual organization. There are neither quantity nor binding quality restrictions on external commodity trade. Although prices have been liberalized, world prices are still not being fully reflected in domestic prices. Terms of trade have been altered, consisting primarily of barter trade. Further, the financial sector is ill equipped to provide the agricultural sector with necessary capital with which to operate and develop new agricultural enterprises. In short, the agricultural sector has witnessed a severe contraction since reforms began (Asian Dev’l Bank 1998). This contraction has resulted in a decline in output of 55 percent from 1991 to 1998 (Gray 2000). (See Figure 1 for production levels over time since restructuring began.) The problems in the sector are serious and are not predicted to improve any time soon.

Researchers of post-Soviet transition have highlighted the role of institutions in the process of economic decline (Csaki 1995; Kalyuzhnova 1999; Bromley 2000).

Transaction costs fundamentally affect the functioning of an economy (Benham 1998), and the result of high transaction costs in Kazakhstan is economic decline. Transaction costs arise largely because the pervasive uncertainty in the world prevents contracts from

Figure 1: Agricultural Output (1994 prices)



Source: Kazakhstan Economic Trends (April-June) 1999

specifying all possible future outcomes. In Kazakhstan documentation suggests prevalent transaction costs consist of high information costs and contractual costs (Gray 2000). International development organizations working in Kazakhstan have identified these costs as ones requiring policy attention (Asian Dev'l Bank 1998; World Bank 2000; Sasakawa Peace Foundation 1998), but a strategy for policy reform targeting these costs has yet to be developed. A comparative institutional analysis of the institutional structures that emerge and are shaped by transaction costs will provide some insight into how to proceed with policy reform.

The proceeding sections provide a theoretical basis for the ensuing analysis. First, the work of Oliver Williamson and Douglass North will be summarized to provide a

foundation for the institutional impact analysis of Kazakhstani farm restructuring. Then a discussion of institutional economics is presented.

2.1.1 Transaction Costs - Oliver Williamson

Williamson developed an analytical framework with which to analyze transaction costs based largely on Ronald Coase's 1937 article, "The Nature of the Firm." According to Williamson (1985), transaction costs include "the costs of gathering and processing the information needed to carry out a transaction, of reaching decisions, of negotiating contracts, and of policing and enforcing those contracts". Williamson presents four basic attributes, which organize transactions and in turn economic activity: 1) specificity of assets, 2) frequency of transactions, 3) uncertainty pertaining to resulting performance of a transaction, and 4) difficulty in measuring performance of a transaction (Williamson 1979; 1991). He introduces the idea that private governance develops to economize on transaction costs (the costs incurred to operate within a market), taking existing technology and institutions as given (Williamson 1985). In other words, as long as the larger institutional environment remains the same, and assuming that individuals are opportunistic and boundedly rational, then transacting parties consider the perceived benefits and costs of alternative coordinating arrangements and transact in a way which economizes on the costs of transacting (Williamson 1991). If the environment changes in the short-run due to uncertainty, insecure property rights or reputation, the costs of coordinating transactions changes, causing new forms of governing structures to emerge. We see this in Kazakhstan as new farm structures emerge and restructure, sorting themselves out.

In the long run, transacting parties can influence the environment and their governance, and likewise through learning and developing new standard operating procedures (SOPs) are influenced by the institutional environment (Williamson 1994). This study focuses primarily on the short-term changes in the institutional environment of the agriculture sector and the resulting firm structures that emerged. According to Williamson (1987), these governance structures, which develop in response to changes in the broader institutional environment, should be the most efficient because they economize on transaction costs. This phenomenon is seen in Kazakhstan during farm privatization as governance structures emerge and dissolve to be replaced with alternative governance structures, effectively sorting themselves out.

One of the limitations of Williamson's approach is the inability of the analytical framework to explain how and why institutions change over time. Discussions of the interdependencies between individuals and institutions, transaction costs and technology is left out of the analysis (Englander 1992). Milgrom and Roberts (1992) attempt to remedy this oversight by adding a fifth basic transacting attribute: the connectedness of a transaction to other transactions, to account for the interdependency between transacting parties. Another limitation is that empirical observation shows that under imperfect market conditions those structures, which emerge, are not always the most efficient ones. This study offers further empirical evidence of the limitations to Williamson's approach.

2.1.2 Institutional Change - Douglas North

North also assumes that individuals are inherently opportunistic and argues that when, during a period of development, costs of transacting increase due to

interdependency of transacting parties, frequency of transactions, and the complexity of technology, opportunistic behavior may increase (North 1990). Economies of scale and scope, innovative technology, and new formal political and market institutions are required for economic development to proceed and realize gains from trade. Institutions are needed to enforce contracts, secure property rights, and increase access to information. The effects of reputation, cultural norms, and SOPs can be sufficient to enforce these institutions, but in order for underdeveloped or redeveloping economies to increase productivity levels, a government third party may be needed. Institutions should be designed to capture more gains from trade by eliminating exchange problems that create transaction costs, but there will still be incentives to cheat, free ride, and make the market imperfect. North posits that only the state has the ability to effectively enforce agreements, because it is the state that defines property rights and supplies the resources used in enforcement. North argues that low transaction costs will result from a well-defined legal framework (North 1990).

Like Williamson, North suggests that in the long run institutions change as communities' rules of the game and individuals' SOPs evolve with the supply of new information. Institutional change, which arises from acquisition of skills and knowledge, will in turn change prices, technology, and the level of information costs.

An important component to North's approach is the acknowledgment that economies perform differently because of the way institutions evolve. Path dependence of an economy or political or social culture is one cause for countries' varying developmental patterns. To illustrate this point, the following simple example is presented. A path of relatively high productivity can develop from an existing

institutional framework that provides incentives for productive activities. When such incentives result in increasing institutional returns, organizations will evolve to reward increases, and progressively drive the economy. On the other hand, if there exists an institutional framework that rewards unproductive activities, the economy will likely experience a regression or stagnation. This phenomenon is observed in countries of the former Soviet Union, where corrupt practices reap the biggest rewards, crippling economic progress.

Although North takes Williamson's approach further by trying to explain why new institutions emerge, his approach also has its limitations. North offers little explanation as to why both productive and unproductive paths emerge which drive economies (Poirot 1993). However, North does allow that it takes longer for cultural norms to develop than it does to create formal rules. Therefore, we can assume that for countries in transition recovering from the state-controlled period of Soviet rule, path dependency will sustain the unproductive activities of these countries until viable institutional alternatives are securely in place.

2.2 The Conceptual Framework: Institutional Economics

The institutional approach to analyzing situations and assessing levels of transaction costs will be employed in this paper. There are two predominant schools of thought within institutional economics: the old and the new institutional economics. The approach of old institutional economists moves from general ideas concerning human behavior to specific ideas and theories related to specific economic institutions or types of economy (Hodgson 1998). The approach of new institutional economists is to explain

the emergence of institutions (Hodgson 1998). Economists of both schools focus on behavior of individuals and society. Much of the work by institutional economists does not take as given the assumptions of neo-classical economic theory that individuals are substantively rational with unchanging preferences, that there exists perfect information, complete contracts, and no transaction costs. The approach used by institutional economists favors exploring the complexities of culture and behavior to understand how value judgments are used to shift benefits and costs.

Old institutional economics holds the following assumptions. The transaction is the unit of analysis; interdependence exists with and without guile; and institutions matter (Schmid notes, 1999). Institutional economics is about the distribution of power and determining whose interests count. In other words, if you have power, your interests count (Schmid, draft). If interests conflict power is unavoidably exercised (Schmid 1994). This institutional approach is required of transitional economies whose populations must unlearn old behaviors and develop new decision-making rules in order to function in the emerging market economy.

2.2.1 Institutional economics and neo-classical economic theory

Neo-classical economics relies on the universal concepts of supply, demand, and marginal utility. It makes the market an abstraction device of institutional detail, and regards the firm as a “black box.” Institutional economics examines institutions in which these concepts (utility, for example) are manifest and does so recognizing that details matter.

Given the inherent uncertainty of present and future states of the world in Kazakhstani agriculture, neo-classical economic theory can be adapted to understand what is behind decisions about farm structures. The point of this exercise is to reveal that organizational structure matters. According to neo-classical theory, profit maximization of a firm is a function of revenue (R) and costs (C) subject to production feasibility.

$$\text{Max } \pi = f(R, C) \quad \text{s.t. production feasibility}$$

A firm adopts change until marginal revenue equals marginal cost. When transaction costs are present, present value (PV) maximization of firm income subject to production feasibility is a function of expected revenues (R), costs when quantities and prices are uncertain (C), and information (I), where information is a function of expectations, timing, and transaction costs and transaction costs are a function of contracts, commitment, incentives, monitoring, and enforcement.

$$\text{Max } V_0 = f(R, C, I) \quad \text{s.t. production and organizational feasibility}$$

A firm will decide to adopt change in a situation of transaction costs if it increases the value of the firm to the employees, and achieves the lowest achievable net transaction costs. This type of decision is not a marginal one, given the high level of uncertainty and information costs. This high level of transaction costs is a large factor in the decision rule used by firm managers.

Organization can therefore represent a constraint on profit maximization of a farm in Kazakhstan. Without the appropriate coordinating institutions, the farm can neither maximize revenues nor minimize production and transaction costs. Pre- and post-contractual opportunism is a constant risk to the manager. Opportunistic behavior is a problem, because it can result in reneging of contracts, hold-up problems², and adverse selection³. In addition to the risk of opportunistic behavior, bounded rationality (the limited ability to assimilate and process information) acts to constrain the decision-making process for Kazakshtani farm managers. Further impacting decisions are high information costs including costs of contracting, measurement, monitoring, and asymmetric information. Bounded rationality and asymmetric information result in decisions based on experience, which is limited with respect to operating in a market economy. Standard operating procedures for functioning during the transition from a command to a market economy, which could provide predictability in the face of uncertainty, have yet to be developed.

2.3 Social Capital and Transaction Costs

According to transaction cost theory, transaction costs of market exchanges arise from uncertainty, bounded rationality, asset specificity and opportunism (Williamson 1975). Social capital can serve to control transaction costs by reducing the impact of bounded rationality and opportunism (Peterson et al. 1999). Social capital, as defined by Robison and Siles (2000), is “a person’s or group’s sympathy that provides another

² A *hold-up problem* is an example of post-contractual opportunism, when parties are forced to accept disadvantageous terms after a transaction has taken place.

³ *Adverse selection* is an example of pre-contractual opportunism, when private information is held by one transacting party prior to transacting.

person or group potential benefits, advantages, support, and access beyond which might be expected between strangers in an exchange relationship.” The impacts of bounded rationality and opportunism are mitigated by formal institutions, as defined by legal rules and enforcement mechanisms (Coleman 1995), in countries with secure property rights. But in countries with underdeveloped regulating institutions, alternative institutions such as social capital exchanges serve to mitigate transaction costs.

These alternative institutions, which develop to combat transaction costs, are formed by societal norms, which are shaped by rules of the game and standard operating procedures (North 1990). With the dissolution of social services and income supports historically provided by the State under the former Soviet regime, individuals and communities have been forced to replace missing formal institutions. According to a study conducted by Valeri Patsiorkovski in 1999, drawing upon data from the Russian Village Study’s panel and longitudinal studies going back to 1991, it was discovered that the most successful households were those with the highest levels of social capital as defined by their social network.

Social capital can serve to facilitate market exchange in the absence of a functional market and effective monitoring and enforcement institutions (Foss 1995). The magnitude of social capital was expressed in one study that revealed that in the presence of social capital, parties in a transaction may forego opportunistic behavior and serve the interests of all parties, thus shifting transaction costs. This behavior arises from a sense of mutual caring or sympathy, which can replace selfish motivations, and ultimately lead to economic gain (Peterson et al. 1999). It has been shown that rural households in Russia have indeed experienced increased economic gain as a result of expanding social

networks (Patsiorkovski 1996). Kazakhstan's and Russia's rural communities, both defined still by the Soviet regime that shaped them, parallel each other in many ways. Therefore, it can be argued that social networks in Kazakhstan likely have the same economic impact on rural households as they do in Russia.

2.4 Theoretical Propositions and Research Methods

The review of the literature on transaction costs and institutional analysis in conjunction with an evaluation of existing case study data fostered the formulation of the following propositions. These propositions will be tested using the SSP methodology.

Proposition One: Different farms have chosen different governance structures. Those with more hostages have lower transaction costs and are thus more successful.

Proposition Two: During the transition from a command to a market economy, institutional arrangements in the agricultural sector that reinforce social networks, result in more successful farms.

Proposition Three: The Kazakhstani farm population must unlearn old behaviors and develop new decision-making rules in order to function in the emerging market economy.

Research Methods

Two types of institutional analysis predominate: change analysis and impact analysis. Change analysis asks what institutions would emerge if certain rules for making rules were adopted (Schmid 1994), while impact analysis informs specific policy decisions (Shaffer 1995) by comparing the performance of everyday institutions (Schmid

1994). SSP impact analysis⁴ is employed in this paper to analyze different institutional structures that have emerged in response to the farm restructuring campaign in Kazakhstan.

Theoretically, the structures that emerge from privatization will be the result of economic optimization by the farm managers. In other words, the structures will be optimal for the farm managers given the broad institutional factors that accompany reform. Farm privatization is the broad institutional environment that directs everyday governance choices. The organizational problem in Kazakhstan and other post-Soviet transitional countries is that these broad institutions are evolving too. The situation of farms characterized by high transaction costs will be linked to alternative structural variables representing institutions adopted by the farm managers to predict performance outcomes. By holding the nature of the good, inherent features of the agricultural sector and transaction costs constant, impact analysis will reveal the most efficient (for farmers) ways to organize agricultural enterprises in Kazakhstan.⁵ It is important to note that the association of many farmers with other farmers, input suppliers and output processors represents another possible source of interdependence. Included in this analysis is an evaluation of existing formal and informal institutions, such as governmental organizations and cultural norms.

The purpose is not to prescribe new institutions to address interdependency but to facilitate the use of existing formal and informal institutions to capture more gains from trade. Additionally, we can use impact analysis to develop institutions that take advantage

⁴ The Situation-Structure-Performance (SSP) method of analysis is discussed in more detail in section 2.4.1 below.

⁵ Schmid and Samuels (1994) contest that in impact analysis some transactions remain costly so that they only happen if they favor development. For example, we want corruption to retain high transaction costs to

of emerging opportunities. Institutional analysis is concerned with effects on performance of both existing and absent institutions (Shaffer 1995). For this reason, Chapter 4 presents a discussion of what performance outcomes are observed and what performance outcomes could result from an application of alternative institutions. Both formal and informal institutions interact to direct performance. Consequently, institutional analysis is complicated by the multitude of formal and informal institutions operating in a given situation.

2.4.1 The Situation-Structure-Performance (SSP) Paradigm

The SSP approach, as outlined by Allan Schmid in *Property, Power, and Public Choice*, uses impact methodology and provides a series of analytical steps for assigning institutions to sort out the conflict that arises from the interdependence created by inherent characteristics of a particular good. The first step in impact analysis is to define the good to be analyzed. The goods used in the following analysis of Kazakhstani farm restructuring are spare parts, labor, and land, which according to case data are primary sources of interdependence. The second step is to clearly define the inherent characteristics of the good in order to sort out the potential conflict of interest. When identifying characteristics of the good it is important to discern which characteristics matter, who the stakeholders are, and whether or not there are characteristics that need to be considered together. The stakeholders involved in the analysis are farm managers, input suppliers, and farm laborers. The characteristics of the specified goods focused on in this study are high transaction costs. The interdependence among transacting parties created by transaction costs is the conflict that needs to be sorted out.

hinder this type of transaction.

The third step in SSP impact analysis is to specify the structural variables that direct the interdependency. Structure ultimately determines whose interests count and the kind and rate of development (Schmid 1985). Theory and empirical observation can be used to determine which structures direct the interdependency as defined in step two. In a transitional context, as in Kazakhstan, theory is beginning to be developed to explain the performance outcomes of current choices by farmers. Moving from a command to a market economy is a new process in an environment with cultural and societal characteristics unique to Central Asia, and many lessons remain to be learned. For the purposes of this study, the structural variables are those actually found in the case studies. Possible alternative structures are also hypothesized. To what extent these institutional structures lead to desirable (for the farmers) performance outcomes is determined in Chapter 4. In the forthcoming discussion of the “nature of the good” or the situation, the institutional details, which need to be held constant, will be explicitly defined in order to isolate the impact of the institutional structural alternatives applied.

The fourth step is to select performance variables, which reflect desired performance outcomes. Each source of interdependence needs to be addressed at this stage. During this step, feedback loops to the situation, innovations in technology, and changes in the political environment need to be considered (Schmid 1985).

The fifth and sixth steps involve formulating testable hypotheses and then testing them. A testable hypothesis should address a given situation and two or more contrasting institutional structures that exist and the expected performance associated with each structure. When formulating hypotheses, it is important to consider public and private variations within the contrasting institutional structures. Two approaches can be

employed when testing hypotheses. The structure can be held constant, applying different situations to predict performance. Or the situation can be held constant, observing the performance associated with the alternative structures. This study employs the approach whereby the situational variables are held constant to predict performance outcomes. In other words, transaction costs are the independent variables. Empirical observation and case study data will be used as evidence of changes in performance as a result of changes in structural variables.

2.4.2 Why Case Studies?

Case studies have increasingly become an effective tool for agribusiness analysts. There are several types of case study design: intrinsic, instrumental, collective (Stake 1994) or exploratory, descriptive, explanatory (Yin 1996). The design selected for this study on farm restructuring in Kazakhstan was the instrumental case study design for several reasons. First, an instrumental case study design uses cases to facilitate our understanding of a broad situation. Second, a number of cases can be studied jointly to inform our interpretation of the subject phenomenon (Stake 1994). Furthermore, this approach to analyzing the situation of farm restructuring in Kazakhstan illustrates the range of organizational forms and strategies used in the sector without attempting to calculate the incidence of these forms or strategies. Case selection is critical when undertaking an instrumental case study (Stake 1994). One or two “archetypal” forms can be compared with one or two “unique” cases (Yin 1996). This approach explores the generalizability of the phenomenon. This method is required in order to study structural change in the agricultural sector and works well in the context of Kazakhstan. That is,

theory is not adequately developed to test the hypotheses. Archetypal cases are developed to build new theory (Stake 1994). For this reason, a multi-case approach was taken.

Case studies enable the formulation of a visual model of relevant theories as presented in an SSP framework. Using case study evidence, the SSP model identifies some of the causal effects of applying different structural variables to address the inherent interdependence. The phenomenon of farm restructuring fits the model well. We would like to employ a longitudinal study, but due to the newness of farm restructuring, a cross-sectional study is employed instead. A cross-sectional approach accounts for variations of some factor of interest (debt level, number of employees, type of governance) across several firms for one time period.

Ideally, cases should be selected controlling for specified characteristics so that the researcher can meaningfully compare different cases. Knowing this, the decision was made during field research to survey many types of farms in several regions of Kazakhstan. Few characteristics were controlled for because an informed selection of control variables could not be made without a more comprehensive assessment of the agricultural sector. This broad-based approach to this case study is designed to inform future research and take inventory of the institutional details, which constitute broad institutional change in the agricultural sector. The case study provides insight into how to develop a conceptual model of the restructuring process. The analysis of these cases represents a critical preliminary step towards developing a more comprehensive survey to study the same phenomenon in other transitional economies.

2.5 Data Sources

The data set utilized in this study is comprised of several sources. Data were gathered from secondary sources including World Bank reports, statistics from the Kazakhstan Statistical Agency, and reports developed by local Kazakhstani organizations. Key informant interviews, case study interviews and empirical observation on small private farms, partnerships with limited liability, and production cooperatives also helped to shape the ideas that are presented in this paper.

A case study survey of restructured farm enterprises was conducted in the summer of 2000. The National Security Education Program (NSEP) funded the field research. Case study data were collected from 16 farm enterprises in three oblasts (regions) of Kazakhstan: Almaty Oblast, Astana Oblast, Kostanai Oblast. The enterprises consisted of three partnerships with limited liability, four production cooperatives, and nine small private farms. Joint stock companies were not included in the case study survey because of the small number in existence and their distance from oblast centers. Local chapters of the National Federation of Farmers and faculty at Kazakh State Agrarian Institute in Almaty, Kazakhstan selected the farms surveyed. The questionnaire was administered in Russian by the author with the assistance of a local student assistant from the Kazakh State Agrarian Institute. Survey questions gathered information on farm characteristics, factors of production, socio-economic factors affecting the farm, and marketing characteristics. Data from nine of the sixteen case studies are used in the analysis in Chapter 4.

Key informant interviews were conducted with representatives of local institutions and international donor organizations. Representatives of the following organizations were interviewed: Winrock International, ACDI/VOCA, The European

Bank for International Development, Kazakh State Agrarian Institute, the State Statistical Agency, the National Academy of Agricultural Science, the Wheat Research Institute, and officials at the National Ministry of Agriculture and local chapters of the Ministry of Agriculture.

It is important to note that data availability was a problem during the data collection stage of this research. There is complexity in assessing levels of transaction costs, because the units of analysis are difficult to measure. Further, much of the evidence provided in this report is based on farmers' unscientific assessment of their world. Fortunately, many of the findings of this study were corroborated by a survey of Kazakhstani farms conducted by the World Bank in 1999.

Data pertaining to association membership and the availability of a variety of information sources provided some insight into information cost levels but this measurement is, of course, open to interpretation. Distance to markets and city centers, quality of infrastructure such as roads, and availability of reliable transportation for goods to market offered an approximate measurement of transportation costs.

Costs of input acquisition were particularly difficult to assess, because an accurate measure of these costs largely depends on a measurement of opportunity costs. For example, if a farm manager spends half a day searching for spare parts, this represents half a day's worth of time not spent on other farm activities like harvesting. The inability to locate and apply fertilizer during critical times in the growing season is another constraint that raises the level of transaction costs. It could be argued that a missed fertilizer application opportunity represents high opportunity costs in the long run in terms of diminished yield.

Despite the apparent challenges of empirically trying to assess transaction cost levels, this study makes an important step forward. Understanding how different farm structures impact certain performance outcomes in Kazakhstan could have significant policy implications in the future. Isolating differences in terms of organizational form will help to inform alternative institutional structures in ways which will decide whose interests count, for whom transaction costs should be reduced, and for whom they should remain high.

CHAPTER THREE: THE NATURE OF THE PROBLEM

3.1 Post-Soviet Kazakhstani Farm Restructuring – definitions and stylized facts

For the purposes of this study, we look at farm restructuring in two ways. First, farm restructuring is constituted by broad institutional changes that have fundamentally impacted the agricultural sector since the beginning of the campaign to privatize agricultural enterprises. These broad changes include the establishment of new legal forms of private farm organization and the development of a land code and a system for demarcating land shares. A more detailed description of these changes is presented below. Second, we view farm restructuring in terms of the individual decisions farm managers make when selecting a form of governance and the interdependence that results from such decisions. Heretofore, this study examines farm restructuring by looking at selected forms of farm governance and the resulting interdependence.

Kazakhstan is experiencing its third agricultural transformation. The first transformation occurred in the first half of the nineteenth century when the Kazakh steppe was cultivated with the aim to claim territory for the Russian empire, bringing it closer to the wealth of India and the valuable trade corridor, "The Silk Road". In the 1950s a second transformation occurred when the nomadic herdspeople of Central Asia were forcibly mobilized to develop large state and collective farms during Krushchev's Virgin Lands campaign. With the fall of the Soviet Union, and the severing of ties with

Moscow, agriculture in Kazakhstan witnessed the start of its third transformation and the liquidation of economic coordinating mechanisms. Research, input, and economic support, such as subsidies to cover unprofitable years for state and collective farms, was abruptly cut off.

Consequently, the agricultural sectors of all former Soviet republics have undergone broad structural transformation since the fall of the Soviet Union in 1991. This phase of broad institutional change, during which farm managers selected alternative governance forms, frames farm restructuring of the agricultural sector in Kazakhstan. Under Soviet rule, *kolkhozi*⁶ (collective farms) and *sovkhozi*⁷ (state farms) were the prominent forms of agricultural management. Both structures were large enterprises comprised of complex management systems and marketing linkages for inputs and outputs. The farms differed in that *sovkhozi* were primarily financed by the state budget, granting their entire output to the state, while *kolkhozi* had more flexibility in marketing their output (Ilkhamov 1998). Both types of farms were, however, state-dependent on inputs such as machinery and fertilizer⁸, and were required to meet state-determined production quotas. The state still owns some marketing channels ten years into the reform process, from supply of inputs, equipment, and services, to food processing, marketing of output and pricing.

The main objective of privatization in Kazakhstan was the conversion of farm workers into owners through decollectivization. Unfortunately, privatization progressed before any overall strategy or legislative base for agricultural reform was developed

⁶ The average *kolkhoz* in the former USSR was 5,900 hectares and employed 312 full-time workers.

⁷ The average *sovkhoz* was 15,300 hectares and employed 420 full-time workers.

⁸ By *state-dependent* we mean that input supplies were delivered at times and in quantities determined by the State.

(Kalyuzhnova 1999). The warning that deconstructing the production sphere of agriculture to create “family farms” first would simply divert necessary attention, technical assistance, and financial resources away from the need to create competitive markets for agricultural inputs and outputs came too late to be heeded (Bromley 1993).

Among the former Soviet republics, Kazakhstan has adopted one of the most gradual privatization approaches. In the wake of the initial move to mass privatize, that is, the rapid transfer of state-owned assets into private hands, several alternatives for restructuring both kolkhozi and sovkhozi were considered. The privatization process consisted of transforming kolkhozi into sovkhozi and then into other management structures such as partnerships with limited liability, production cooperatives, or small private farms. However, by 1998, only 40 percent of farm enterprises had been decollectivized, the rest were still under state control (Kalyuzhnova 1999). (See Table 1 for sector composition.) In the absence of institutional support (i.e. access to credit for entrepreneurs, secure property rights, access to inputs), decollectivization of Kazakhstan's agricultural sector has been slow, as evidenced in the shift from kolkhoz and sovkhov structures to other farm structures in terms of legal status only.

Since farm privatization began, the area cultivated has been reduced from 34.9 million hectares in 1990 to 31.7 million hectares in 1994 and 28.6 million hectares in 1995 (Deberdev 1998). This downward trend continues in 2001. In contrast, an upward trend is seen in the increase in number of new farm governance structures. In 1991, the agricultural sector comprised 2,120 state farms and 430 collective farms (Gray 2000). In 1996, the sector comprised 1,405 state farms, 390 collective farms, 30,700 small private farms, 3,134 production cooperatives, partnerships, and joint-stock companies, and 571

other agricultural forms. In addition to these forms, an estimated 1,292,024 families were engaged in cultivation of household plots or gardens.

In 1996, the following distribution of agricultural land was seen across farm structures: state farms (33.1 percent), collective farms (6.6 percent), small private farms (5.8 percent), agricultural cooperatives (.05 percent), other non-state agricultural enterprises (53.9 percent), and family plots (.05 percent) (Deberdev 1998). By 1999 there were 89,996 legally recognized farm governance structures. Of these 84,766, or 94.2 percent, were small peasant farms. It is important to note that according to a representative of the National Farmers Association, small private farms may actually have numbered in 200,000 to 250,000 and are even more numerous in 2001. The other 5.8 percent of legally recognized farm governance structures include: 2,380 production cooperatives, 2,290 partnerships with limited liability, 373 joint stock companies. In 1999, there were also 60 state farms still remaining (Gray 2000).

Table 1: Summary of Farm Governance Structures (April 20, 1999)

<i>Oblast</i>	Total Farms	Small Private Farms	Production Cooperatives	Partnerships w/ Limited Liability	Joint Stock Company	State Farms	Other
Akmola	3954	3575	112	203	34	5	25
Aktybinsk	2474	1958	329	168	18	1	-
Almaty	19482	19024	312	83	35	17	11
Atirau	1143	1097	24	13	9	-	-
E-Kazakhstan	6989	6761	55	149	19	4	1
Zhambul	6252	5963	100	170	15	4	-
W-Kazakhstan	3417	3018	186	198	15	-	-
Karaganda	4522	4309	73	52	82	1	5
Kyzl-orda	1623	1473	29	63	45	2	11
Kostanai	6307	5647	69	552	35	4	-
Mangistai	435	418	6	5	6	-	-
Pavlodar	3347	3197	18	126	4	2	-
N-Kazakhstan	5801	5128	220	395	45	6	7
S-Kazakhstan	24250	23198	847	113	11	14	67
Total	89996	84766	2380	2290	373	60	127

Source: World Bank Technical Paper No. 458, 2000

Kazakhstan's present economy is characterized by extreme uncertainty, high transaction costs, undefined rules of the game, and insecure property rights. The process of farm restructuring requires broad institutions that shift transaction costs away from farm entrepreneurs in order to foster development in the agricultural sector. Presently farm restructuring in Kazakhstan is progressing without effective regulatory or workaday institutions to guide the process. In place of these institutions, farm enterprises are left to devise their own methods (ie. selecting private governance structures) for operating during the transition and ultimately for shifting transaction costs away.

The government of Kazakhstan is not facilitating the transition from a command to a market economy in the agricultural sector. In the absence of an effective governing framework with which to recognize and enforce business contracts and private property, new private institutional structures must be designed and managed which foster development. A clearer description of the environment, in which new farm governance structures function, is discussed later in this chapter. In Chapter 4 an assessment of how these structures are adapting to a high transaction cost environment and affecting performance outcomes is presented. Alternative institutional structures yet to be implemented will also be presented and discussed.

3.2 Stakeholders in farm restructuring

The stakeholders in farm restructuring are farmers from the former kolkhozi and sovkhosi in Kazakhstan. Upon leaving the kolkhozi and sovkhosi, these farmers became managers of small private farms, or became wage earners in nominal partnerships with limited liability, joint-stock companies or production cooperatives. Those who choose to venture into private farming are usually farm technicians or farm managers who can meet

the skill requirements of private ownership. They also tend to have good connections with local authorities, allowing them relatively easy entry into the market. Private farmers also consist of entrepreneurs who previously did not work in agriculture, but recognize farming as a business opportunity. In most cases, the managers of production cooperatives were previously directors of the kolkhoz and sovkhoz from which the cooperative originated. Partnerships with limited liability are mainly restructured production cooperatives with the same management personnel intact, or are comprised of several small private farmers who decided to farm jointly.

Schmid (2000) reminds us that the emphasis of institutional impact analysis is on relations among people, therefore, in order to perform an effective institutional analysis, behavioral regularities of the stakeholders need to be understood. The behavioral regularities, which are most relevant to Kazakhstani farm restructuring, include bounded rationality, path dependency, competence-difficulty gap, and radical subjectivity. We try not to make assumptions about the behavior of stakeholders, but instead base our description on empirical observation.

Farmers can be classified into two main groups. The first group is innovative and consists largely of small private farm managers. Managers of this group welcome changes that have occurred as a result of the privatization campaign and are not burdened by path dependent behavior. Instead, this group of farmers is most likely to employ radical subjectivity⁹ to their advantage in imagining future states of the world. They are characterized as being less risk-averse entrepreneurs with a broad range of agricultural skills. They look forward to integrating into a market economy, and believe in the sale

⁹ Radical subjectivity is a concept refined by Littlechild (1986), which explains a behavioral rule whereby

and purchase of land.

The second group is comprised for the most part of managers of large farm enterprises. Farmers of this group prefer to return to the days of admittedly poor efficiency, but more certainty. They are characteristically risk-averse and generally have highly-specialized skills. These managers are motivated to hold the agricultural system of the past together in order to maintain the social well being of their employees. These managers are good at demonstrating a competence-difficulty gap¹⁰, by preferring to revert to management SOPs developed under the Soviet regime in the face of uncertainty to avoid making mistakes.

3.3 Situation: Sources of transaction costs in the Kazakhstani agricultural sector

Three types of transaction costs predominate the case study data. These varieties of transaction costs are defined by Schmid and include information costs in measurement, contracting costs and costs arising from specific assets in the context of necessary incomplete contracts. Information costs are the “the costs of acquiring information about product (and input) price and quality now and in the future” (Schmid 1997). These costs were identified in the case studies based on frequency across farms studied, and the variety of ways in which new farm governance structures adapted to these costs.

Contractual costs comprise the costs of doing business. Contractual costs include the cost of negotiating, enforcing contracts, and search, and are in part a function of the number of

an individual or group of individuals conceive of the future and create it.

¹⁰ Competence-difficulty gap (C-D gap) is a concept developed by Heiner (1983) to explain the way individuals, in a situation of high uncertainty, will adopt standard operating procedures that simplify decision-making.

people involved the complexity of prosecution. Cost of contracting and information are closely associated sources of interdependence.

3.3.1 High Information Costs

High information costs are prevalent in agriculture. The case in Kazakhstan is particularly acute, and as a result, risk and uncertainty for farmers has reached debilitating levels, changing the way farmers use decision rules. The sector was destabilized from the start when privatization of kolkhozes and sovkhozes took place in the absence of information transferal to farm members. That is, collective and state farms restructured without a clear understanding of what their options really were and even lack of awareness of their rights as shareholders (Kalyuzhnova 1999). Information costs have magnified since 1991, and pervade all stages of the sector.

Farm managers suffer high information costs in measurement from several sources. High information costs in monitoring farm workers is one of the lasting effects of the Soviet period. High information costs also arise due to inadequate transmission of price signals in the market and asymmetric information pertaining to location and quality goods. These costs in turn create additional costs in input acquisition and marketing. The level of costs varies among different farm structures as will be discussed in more detail in Chapter 4.

Schmid suggests that information costs can be reduced by property rights and by different forms of institutional organization.¹¹ For example, in an attempt to reduce information costs in the agricultural sector, in 1998, TACIS, a European development organization initiated a project to develop a nation-wide marketing information system by which to communicate prices, location, and quality of products. Operations of this system failed, however, within months of TACIS' withdrawal of their external managerial support. No further attempts have been made to establish another marketing information system. Alternative rights can be applied to situations where transacting parties have asymmetrical information to direct distributive consequences (Schmid 1999). The transacting party with inadequate information lacks the ability to protect their rights.

3.3.2 Asset Specificity

Specific assets also constitute a source of interdependence in the agricultural sector. For many collective and state farms, decollectivization consists of dividing assets among employees or members. What results are diseconomies of scale in production. For example, smaller farms are burdened with tractors and combines designed for large farms, and management accustomed to facilitating large-scale operations is underutilized. In general, managers would choose not to invest in specific assets, especially amidst such extreme uncertainty surrounding wages, weather, prices, and crops. If farmers invest in specific assets, they cannot be sure that they will continue transacting with their trading partners long enough to see a return on their investment. This preference limits adoption

¹¹ It is important to note that a reduction in costs of information that benefits one party creates costs for another party. That party in turn loses the power to generate income from the party that previously lacked information.

of new, perhaps lower cost per unit of output, technology, and in turn could stunt productivity.

3.3.3 Contracting Costs

Contracting costs are high in Kazakhstan primarily because property rights are not secure. However, even where enforcement institutions are effective, such as when banks seize account holdings of borrowers who default on their loans, contracting costs are not necessarily mitigated. In this situation, seizure of accounts has discouraged farmer utilization of banks. In place of banks, barter trade, which does not require hard currency, has increased. A World Bank study on farm restructuring in Kazakhstan (2000) argued that large scale farms, particularly in the north of Kazakhstan, have reduced contracting costs more than other farming types, because cost of search is reduced by a wide network of connections or ‘blat’.

3.3.4 Uncertain Future States of the World

Theory (Dosi et al. 1988) explains how uncertain future states of the world direct behavior individually and across a community. Much uncertainty is derived from an inability to map preferences, states of the world, actions, and outcomes. The decisions required of managers of new farm governance structures in Kazakhstan involve the impossibility of knowing what operating in a new economy under new rules is like. Because the occurrence of future states of the world is partly the “result of present decisions made by heterogeneous agents characterized by different competences, beliefs and expectations” (Dosi 1988), farmers are rarely if ever able to exhibit utility-

maximizing behavior. Over time, as the future unfolds, individuals can develop methods for accommodating the emerging reality. Competence-difficulty gap and radical subjectivity (these terms are discussed in later sections) are two methods that are used to accommodate for uncertainty. Uncertain future states of the world require institutions to shape behavior of new farm managers. Institutions can be applied to a situation to inform decisions in the face of uncertainty.

3.3.5 Competence-Difficulty Gap

Heiner (1983) suggests that we simplify our behavior to deal with uncertain situations by developing behavioral rules or standard operating procedures. Schmid (1999) points out that a C-D gap is not missing information necessarily. Rather the complexity of the information available during the decision-making process compels decision-makers to adopt behavioral rules lest their incompetency in calculation leads to mistakes. These behavioral rules are applied only to similar situations and do not demonstrate optimizing behavior.

We see evidence of this non-optimizing behavior in the agricultural sector of Kazakhstan as farmers struggle to adapt to the shift in their economy from command to market. Terms of trade have become less efficient, sending stakeholders in farm restructuring down a path towards distorted valuation of inputs and outputs. In most cases, labor management practices have yet to incorporate productivity-enhancing incentives. The most inhibiting SOP, a remnant of the Soviet period and resorted to still

in times of great uncertainty, is the practice of taking no initiative to improve a dismal reality.

One farmer admitted that, “the USSR did not teach the population to think or to be individual. In fact, we don’t want to think. It’s easy [not to think]. The party decided everything. Earlier the farm worker was 100 percent protected by the government.” Not thinking is an SOP which stakeholders revert to in light of an unwillingness to process all available information. The National Farmers Association is an organization that is working to change this attitude by informing farmers of new concepts about farm organization and management.

3.3.6 Radical Subjectivity

The radical subjectivity approach was refined by Littlechild (1986) to express the situation where future states do not exist, but are conceived of in the decision-making process. This behavioral regularity emphasizes the imagination needed to create alternatives between what decisions are made and the uncertainty associated with the outcomes of decisions. Individuals who accommodate for radical subjectivity and predict consequences of decisions are influenced by what they wish to happen and what they fear. They may also choose to ignore what they find unappealing (Littlechild 1986).

In Kazakhstan, radical subjectivity is demonstrated among entrepreneurial farmers in particular who are more willing to experiment with new governance structures and imagine alternatives to the Soviet ways of operating in the agricultural sector. Previous directors of kolkhozi or sovkhozi who retain their leadership position as managers of production cooperatives, for example, accommodate for radical subjectivity when they develop and implement innovative labor incentive programs. More innovative

thinking and imagining of future states and then creating them is an important part of the Kazakhstan's transition to a market economy.

3.4 Institutions: formal and informal

Institutional structures have emerged to direct performance outcomes. The analysis will show how observed institutional structures direct performance and what performance outcomes could result from alternative institutional structures that foster economic growth. The institutional alternatives selected for the analysis are designed to enable farmers to capture more gains from trade and shift transaction costs away from poor farmers to other stakeholders. In the analysis, the impact of both formal and informal institutions on performance outcomes will be considered.

Formal institutions, as defined by legal rules and enforcement procedures, serve to mitigate the impact of bounded rationality and opportunism in countries with secure property rights (Coleman 1995). But in countries with underdeveloped regulating institutions and insecure property rights, alternative institutions, often informal, serve to mitigate transaction costs. These alternative institutions, which develop to combat transaction costs, are shaped by rules of the game and standard operating procedures (North 1990). With the dissolution of social services and income supports historically provided by the state under the former Soviet regime, individuals and communities have been forced to replace missing formal institutions, or simply rely on informal institutions. Below is a brief description of some of the formal and informal institutions shaping the situation in the agricultural sector.

3.4.1 The Rural Credit System

In the rural financial sector there exists a serious liquidity problem due to low availability of credit to farmers. The majority of the farming population is not eligible to borrow, because they lack collateral. The root of this problem is that land and moveable property such as farm machinery, two assets most prevalent on farms, have yet to be considered as normal forms of collateral. Agricultural lending institutions such as credit unions are underdeveloped and commercial banks are reluctant to get involved in the agricultural sector because of the risk associated with farm enterprises that notoriously default on their loans. In the early 1990s unpaid loans represented half of the value of the commercial loan portfolio (Gray 2000).

During the initial phase of restructuring, from 1992 to 1994, credit was much easier to obtain. The managers of large farms and farm workers who exited farms to establish private farms received credit, and are operating the most successful farm enterprises today. But this early group of borrowers was not as successful at paying off loans as it was at acquiring them. Unfortunately for their successors, this behavior set precedents that eroded credit opportunities, and by 1994 access to credit had become rare (Kudat et. al 2000). Despite the high risk associated with lending, Winrock International in Kazakhstan experimented with micro-lending schemes modeled after the Grameen Bank program that originated in Bangladesh.¹² Winrock experienced some success with this program in southern Kazakhstan and plans to expand its micro-lending practices by organizing credit unions.

¹² The Grameen model was first introduced in 1976 in order to provide credit to those too poor to obtain it through standard Banks. It is a self-enforcing model in that unrelated members of a five-person group put pressure on each other to meet payment deadlines, because if deadlines are not met penalties will be incurred by all in the group.

Currently, there exists one financially viable commercial agricultural bank, Kazagroprom. Some of the factors impacting the willingness of banks to lend to the agricultural sector include: poor farm performance (80 percent operating at a loss in 1998), inexperience of banking staff, huge accumulated farm debt, and unclear ownership and structure of farms. In a survey conducted by the World Bank in Kazakhstan (2000), farm workers indicated that lack of funds and credit were the major factors that impacted their decision not to exit base farms and establish their own farms. More than 53 percent acknowledged that they would have liked to leave the kolkhoz or sovkhos if they could have been granted a loan.

3.4.2 Farmers Associations

The National Farmers Association in Kazakhstan was established during privatization to address many problems faced by farmers. Most farmers face similar problems: acquisition and maintenance of farm machinery, irrigation and fertilizers, access to credit, limited knowledge of new technology, and poor management skills. In 1999, only nine percent of the farming population participated in farmers associations. One independent farmer expressed her opinion about the situation, “We need the Association for the following purposes: first, to have a unified legal consultation center; secondly, to have an information bank on prices, suppliers, customers; thirdly, to defend our political and social interests. The Association should combine the economic, political and social interests of the independent farmers and to defend them” (World Bank 2000).

In oblasts throughout Kazakhstan, farmers are beginning to organize associations as a way to have their interests represented. Fifty-five percent of farmers surveyed

expressed an interest in uniting with other small private farms to establish associations that would serve to provide information and consultation on legal and financial matters, but lack of resources prevents the formation of associations from being widespread (World Bank 2000). Some farmers are skeptical of the efficacy of farmers associations, and will refrain from supporting such establishments until they have seen results.

The National Farmers Association also fostered the development of the Social Democratic Peasant Party. When the Party leader is not working for the National Farmers Association, he volunteers his time organizing the Party. Membership in the party is voluntary and free, because “Twenty tenge is worth a loaf of bread and we cannot take even that from the population we are trying to help.” The person in charge of party operations explained that the political party was started from the bottom up rather than typically from the top down, implying better representation for farmers.

3.4.3 The “Patent” System of Taxation

The tax burden for farmers has been reduced since the introduction of a three-year reprieve from most taxes. In its place, the “patent” system was established. This system allows farmers with enough liquidity to pay taxes in advance. The advantage of this system is that once taxes are pre-paid, the farmer holds a receipt that renders the farmer free to market farm output without additional certification. Further, there is less likelihood that the farmer will receive unexpected tax inspections. This system gained popularity quickly, and by the spring of 1999, 18 percent of small private farms were under the patent system (Gray 2000). (See Table 2).

Case study evidence indicates that some farms, which are identical to partnerships with limited liability, take the legal status of small private farms in order to avoid paying high taxes. The patent system benefits small farms by minimizing taxes, but large farms (PLLs and production cooperatives) that do not participate in the patent system benefit from input subsidies, for which small private farms do not qualify.

Table 2: Adoption of the Patent System of Taxation 1999

Oblast	Total Farm Entities	Of which: Using Patent	%	Peasant Farms	Of which: Using Patent	%	Non-peasant Farms	Of which: Using Patent	%
Akmola	3854	306	8	3575	279	8	379	27	7
Aktybinsk	2474	403	16	1958	344	18	516	59	11
Almaty	19482	3535	18	16024	3523	22	458	12	3
Atirau	1143	337	29	1097	315	29	46	22	48
E-Kazakhstan	6989	1337	19	6761	1292	19	228	45	20
Zhambul	6252	416	7	5963	339	6	289	77	27
W-Kazakhstan	3417	249	7	3018	236	8	399	13	3
Karaganda	4522	907	20	4309	898	21	213	9	4
Kyzl-orda	1623	403	24	1473	403	27	150	-	-
Kostanai	6307	733	12	5647	726	13	660	7	1
Mangistai	435	221	51	418	221	53	17	-	-
Pavlodar	3347	949	28	3197	923	29	150	26	17
N-Kazakhstan	5801	435	7	5128	407	8	673	28	4
S-Kazakhstan	24250	5393	22	23198	5358	23	1052	35	3
Total	89996	15624	17	84766	15264	18	5230	360	7

Source: World Bank Technical Paper No. 458, 2000

3.4.4 Local Bureaucracy

Oblast authorities both enable and constrain agriculture development in their respective regions. Although the role of the state in procurement has been greatly reduced, some oblast administrations still play an interventionist role in agricultural

commodity markets. It has been documented (Gray 2000) that some large farms are favored over small farms and allowed to export grain to neighboring oblasts or to Russia while the small farms are prohibited from doing so.

Oblast authorities can also facilitate development of the agricultural sectors in their oblasts. In Kostanai, the goals of the Department of Agriculture are clearly defined. The Department aims to: 1) locate affordable fuel, pesticides and herbicides, 2) encourage partnerships with limited liability to remain intact, 3) encourage the voluntary unions of small private farms, and 4) locate markets for output. On an even more local level within the oblast, akims (district mayors) are held responsible for the welfare and economic success of their constituencies. In turn, a large part of their job is to market their districts' output. Of course, the level of commitment an akim makes to the task of securing markets varies greatly from district to district. Case study evidence reveals significantly more support of farmers from akims in the northern oblasts of Kazakhstan.

3.4.5 Standard operating procedures and culture

Old standard operating procedures (SOPs) are perpetuated by path dependency and a C-D gap for the Soviet way of doing things. Under the Soviet regime, input and output channels were established by the state, and management decisions focused on how to coordinate farm enterprises in order to achieve output quotas. In many cases today the same managers direct restructured farm enterprises in the same ways, expecting the same level of governmental support. Trade has evolved to consist primarily of barter trade, whereby currency rarely changes hands. Now, instead of producing to achieve a state-mandated quota, farmers are compelled to produce enough output to barter for their other

needs. The farmers' mentality also impacts the way contracts are viewed and loans are managed. Old learned behaviors persist partly due to the way farms are restructuring without introducing new managerial talent.

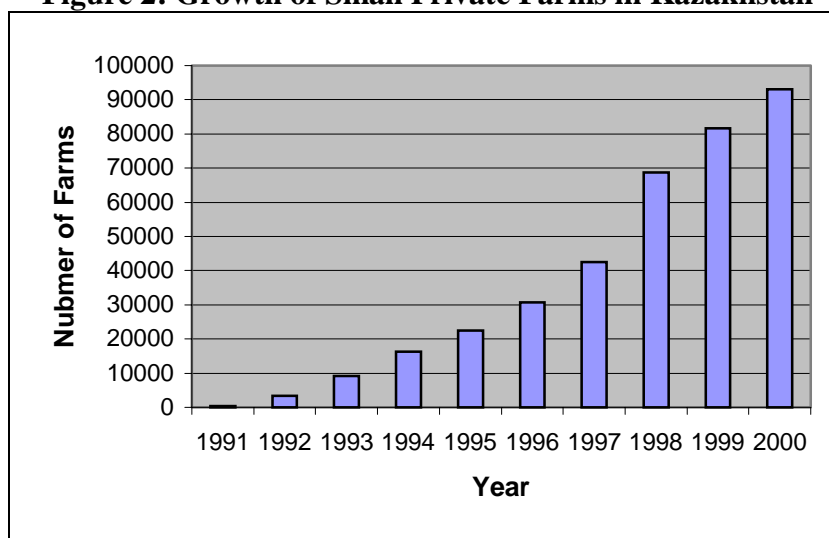
3.5 Farm Structures: Definitions and stylized facts

The following is a brief description of organizational forms that have been adopted by former kolkhozi and sovkhozi: small private farms, partnerships with limited liability, production cooperatives, and, and joint stock companies. The responsiveness of new organizational forms to a situation of high transaction costs is analyzed using SSP impact methodology. Initial, inherent transaction costs will be held constant and the existing, alternative structural variables will be observed to determine impact on performance outcomes. The following section presents an analysis of how alternative structures adapt to an economic environment of high transaction costs that arise as a result of asset specificity, moral hazard or opportunistic behavior, and uncertainty. There are differences in rights across farm structures. These differences in rights and opportunities affect income levels on farm enterprises.

3.5.1 Small Private Farms

There are nearly 100,000 (see Figure 2 for trend in private farms) small private farms registered in Kazakhstan. There are probably many more small private farms that have not registered due to the time-consuming nature of the registration process. The National Farmers Association estimates that small private farms could actually total twice this number. By 1998, 75 percent of the privatized farm enterprises in Kazakhstan were small private farms, employing up to five people. The remaining 25 percent employed up to 25 people. In total, small private farms accounted for less than 5 percent of total farm output (Kalyuzhnova 1999).

Figure 2: Growth of Small Private Farms in Kazakhstan



Source: Almaty Farmers Association 2000

These farms are created by a family or a group of families from jointly owned land and assets. Small farms may be better suited to dealing with labor incentive problems than other organizational structures because labor is supplied mainly from extended family, significantly reducing information and monitoring costs and preventing shirking and other moral hazard problems.

In terms of viability, the small private farms that are most viable are those that were created at the beginning of the farm restructuring process. The advantage of these farms is that the farmers who exited at the onset of reform in 1991 and 1992 were able to acquire quality farm machinery through informal means that are no longer available (Gray 2000). Farms that were recently established face many more constraints, but the number of small private farms increases every year.

3.5.2 Partnerships with Limited Liability

A Partnership with Limited Liability (PLL) is a new farm structure that emerged following the bankruptcy stage of production cooperative restructuring. There have been incentives created by local authorities to create partnerships with limited liability. The local authorities encourage this type of organizational structure, because by turning over assets, assets remain in the community (Gray 2000). This form has only recently begun to be selected as a governance structure and, therefore case study evidence provides little historical insight with which to make some assessment of the efficacy of this structure.

There have been many PLLs created within production cooperatives. Typically, between three and five PLLs can be created from one production cooperative. Often there is no change in management or operations. In others, the production cooperative breaks into smaller operating units. Often the transformation from production cooperative to partnership with limited liability means the placement of responsibility for farm operations in the hands of one manager who is capable of generating a profit.

3.5.3 Production Cooperatives

The concept of agricultural cooperatives is not new to Kazakhstan. Under Communism, as early as 1921, agricultural cooperatives were introduced by Lenin as a means of mobilizing the "backward" peasants into meaningful employment to further the Socialist cause. In the early stages of the transformation of the countryside, agricultural cooperatives provided an extensive network for getting agricultural products from the farm to the market. There were marketing, producer, and service cooperatives, all with strong ties to the State, and eventually they evolved into collective farms as a means of strengthening farm enterprises in response to growing discontent among the Kulaks, or landowners, of the Czarist era (Golikov 1970).

Much has been written about the benefits of cooperatives as a development tool (Deininger 1993; Shaffer 1987). According to cooperative theory, farmers invest in cooperatives as a way to reduce risk and gain the profit margin for themselves. In Kazakhstan, cooperatives may represent the cheapest form of insurance against unstable incomes due to a differential effect of weather and price variation of different products. By pooling returns and expenses in a cooperative, farmers could reduce the variability of their incomes, and likewise reduce risk (Staatz 1987).

Organizations like ACDI/VOCA promote the development of western-style production cooperatives in Kazakhstan. In 2000 they initiated two cooperative pilot projects in southeast Kazakhstan. The success of these pilot projects is pending.

The production cooperative structure, which has emerged, is typically a new structure in legal status only. On paper, a cooperative is a voluntary association of members established for the pursuit of agricultural activity. Each member makes a

contribution of cash, land or assets to build the equity capital of the cooperative. On exit, members receive a share of the investment based on the cooperative charter. Each member has one vote to exercise during cooperative decision-making. In practice, the “members” of production cooperatives do not contribute to the equity capital of the cooperative, but instead sign over their land and asset shares to the former manager who generally retains directorship upon restructuring the sovkhos or kolkhoz. Members have the right to exit, but there is no guarantee that land or asset shares will be allocated to members who decide to exit. Members also have the right to vote, but workers have a tendency to vote with the director and not based on personal opinions.

3.5.4 Joint stock companies

Joint-stock companies represent kolkhozi and sovkhosi, which have changed their legal status. On paper, joint-stock companies act like closed companies, in which shares are distributed only among the employees (Ilkhamov 1998). Joint-stock companies are created by investors who acquire shares in the company when they contribute to the company’s equity capital. If shareholders decide to exit, they have to find a buyer for their shares. The company itself has no obligation to buy back the shares. The voting power of a company shareholder is equivalent to the number of shares held (Lerman et. al 2000). Such companies do not attract investments through selling shares on the stock market. Because of this inconsistency, in many cases it is not clear how this is different from a collective farm.

There are very few joint-stock companies in existence in Kazakhstan. Those that do exist are located in the wheat-producing region of northern Kazakhstan. According to

a World Bank report (Gray 2000) on farm restructuring in Kazakhstan, the joint-stock company is the least viable of the emerging farm structures due to the low availability of credit with which to invest and lack of interested investors. For the few businesspeople who were in a position to invest, especially at the beginning of the farm restructuring process, financial gains have followed. Because of the low occurrence of this structure, the case study did not include joint-stock companies.

CHAPTER FOUR: INSTITUTIONAL IMPACT ANALYSIS

In this chapter, the responsiveness of new organizational forms to a situation of high transaction costs is analyzed using SSP impact methodology. Cases were chosen so that initial, inherent transaction costs are held constant and the different structural variables are observed to determine impact on performance outcomes. The institutional impact analysis for each good is divided into two parts. The first part will present the SSP paradigm comparing observed structural variables and performance outcomes. The second part suggests some new and yet untried alternative structural variables and offers examples to show how these alternatives might impact performance outcomes in a situation of high transaction costs.

One of the objectives of this analysis is to examine the impact of farm managers' decisions to select one available farm governance structure (i.e. small private farms, production cooperatives, partnerships with limited liability) over another in situations of high transaction costs. A comparative approach is used to examine the differences among farm structures to determine variations in farm operations when the goods are: spare parts, labor, and land. Case study data provides evidence for performing a comparative institutional analysis to test performance outcomes for each of the goods. The first step in the analysis is to define the inherent characteristics of the good and identify the transacting parties. The second step is to determine the sources of transaction costs that create conflict and interdependence among transacting parties. Once the situational variables have been defined, structural variables and performance outcomes are observed. Each analysis concludes with a discussion of proposed alternative structural variables and predicted performance outcomes.

Spare parts, labor, and land were selected as central goods based on the high level of interdependency they create as evidenced in the case study data. Table 3 provides a summary of the behavioral regularities and the situational variables discussed in Chapter 3 that pertain to spare parts, labor, and land. Observed institutional structures that emerge in response to the situational variables are discussed in this chapter. An examination of the case study data showed variation in the institutional structures, which were adopted to address interdependence. Variations in the ways managers adapted to high transaction costs occurred across farm governance structures and within particular farm governance structures.

Table 3: Nature of the Good and Situational Variables

BEHAVIORAL REGULARITIES	GOODS	SITUATIONAL VARIABLES
BOUNDED RATIONALITY	SPARE PARTS	TRANSACTION COSTS
PATH DEPENDENCE	LABOR	High information costs
COMPETENCE	LAND	High costs of contracting
DIFFICULTY GAP		High costs of search
		High costs of monitoring
		Asymmetric information
RADICAL SUBJECTIVITY		UNCERTAINTY

4.1 The Case of Spare Parts – Overview of Situation

Low availability of spare parts for farm machinery is a major constraint on farm enterprise operations in Kazakhstan. Spare parts can be obtained from some dealers in Kazakhstan and from Russia, but are generally too expensive. Most of the farm machinery and equipment in use today is the same equipment that was formerly used on collective and state farms. It was acquired during decollectivization, and has been rendered obsolete in some cases. In other cases it sits idle for lack of spare parts.

Since decollectivization began in Kazakhstan, farm managers have had increasing difficulty acquiring the necessary inputs with which to operate farm enterprises. Spare parts, seeds, fuel, and fertilizer are becoming exceedingly hard to obtain due to lack of hard currency with which to purchase these basic inputs and lack of an information system by which to communicate location and prices of inputs. Before the fall of the Soviet Union, farm machinery and spare parts were produced in factories located primarily in Russia and Belarus (Konstantinova 2000) and were distributed to collective and state farms by the state. When there was no longer a state to provide necessary inputs, farms in Kazakhstan were forced to come up with their own solutions to quickly evident input acquisition problems. In a survey conducted by the World Bank, farmer respondents indicated that “high price and inaccessibility of machinery and spare parts” represented the largest constraint to farm management (Kudat et. al 2000). (See Table 4).

Table 4: Difficulties in managing small private farms (percent)

High price and inaccessibility of machinery and spare parts	61
High price and inaccessibility of fuel and lubricants	37
High prices of other inputs	18
High prices and lack of seeds	10
Lack of credit	10
High taxes	8
High prices and lack of fertilizers and chemicals	7
Lack of assistance from local administration and the State	7

Source: World Bank Household Survey 2000

When a machine breaks down, farmers have few options. They can barter for spare parts, try to fix broken parts, “borrow” parts from neighbors or other machines, or pay in cash for spare parts locally if available and affordable or abroad in Russia, for example, where spare parts are generally less expensive. In studies conducted by the U.S. and Foreign Commercial Service (1998), farmers in the former Soviet Union are overwhelmingly in favor of high-quality western farm machinery that harvests a crop efficiently and requires relatively little maintenance. New farm machinery is available, but there is no money with which to purchase this machinery, causing a decline in tractors used. (See Table 5). Regional governments also recognize the value of western machines, and try to create opportunities for their acquisition. Some acquisition methods involve applying for international grants and government funding. The emerging

Table 5: Tractors per 1,000 hectares, 1992-1997

	1992	1993	1994	1995	1996	1997	1997/1992
Kazakhstan	6.2	6.0	5.6	5.3	4.6	3.6	.58
Kyrgyz Republic	20.0	19.3	20.2	19.8	14.5	14.1	.71
Tajikistan	41.5	34.5	35.5	37.5	39.5	39.5	.95
Turkmenistan	46.5	36.1	31.3	30.8	30.7	30.7	.66
Uzbekistan	40.2	38.0	38.0	38.0	38.0	38.0	.95

Source: FAO various years

Agrarian Party of Kazakhstan and the National Association of Farmers are advocating for leasing arrangements with foreign farm machinery manufacturers, but foreign companies are reluctant to invest in the economy due to high uncertainty and risk. Service centers are also in demand, but demand remains unmet.

Several situational variables create interdependence when the good is spare parts and represent sources of transaction costs on farm enterprises. Interdependence is created by high transaction costs in information and uncertainty. Prevalent costs include the costs of searching, contracting and negotiating for spare parts. Information asymmetry also creates costs in assessing quality and best price of spare parts obtained from neighbors, in Russia, and of the spare parts sold to area farmers in local retail stores. Behavioral regularities include the competence-difficulty gap.

Three cases illustrate how alternative structural variables can be applied to a situation of high transaction costs to direct performance outcomes. The first case shows how a partnership with limited liability adapts to the low availability of spare parts. The final two cases describe the methods used by small private farms to overcome difficulties in acquiring spare parts. The stakeholders in a case when the good is spare parts are the farm workers, the farm managers, and the suppliers of spare parts, including the wholesalers in Russia.

4.1.1 Case 1: “Justice” Partnership with Limited Liability

The partnership with limited liability (PLL), “Justice,” grows wheat on 2,000 hectares 30 km from the village Dokuchaevka in north central Kazakhstan. It was established in 1997 when the restructured state farm that was there went bankrupt. At this time, the workers

had the option of buying the remaining assets or allowing the restructured farm to retain them. Several workers decided to purchase assets and organized to form the current partnership with limited liability. The workers in this PLL bought their share of the assets, pooled their resources, and purchased five combines, seven tractors, and one truck from twenty other exiting farm workers who did not want to continue farming. In the beginning, the workers were “afraid of reorganizing into the new enterprise,” because they did not understand what to expect from decollectivization. Three years after these twenty workers made the decision to exit collectively and form a PLL, some of the initial uncertainty seems to have dissipated. The PLL is organized so that all workers take part in managing farm operations. They are self-described as being hard-working and care about the well being of the other workers.

In general, the equipment is in good condition, but the fleet is insufficient in meeting harvesting demands. The PLL has the opportunity to rent additional machinery as needed from a local state farm at an interest rate set by that farm. During the growing season, if problems with the farm machinery arise, workers utilize the resources available on the farm to address these problems. If additional parts are needed, the workers must wait until there is time in the winter season to go to the regional capitol to search for them, because the farm is far away from any major city and the trip is made longer by a poor road system. Once suitable parts are located, time is spent negotiating for them in open markets and through personal connections. Sometimes workers are sent to Russia for spare parts. Typically, grain is bartered for spare parts. Purchasing new machinery is not an option for the workers of this PLL, because they lack the capital with which to purchase machinery as well as the collateral with which to obtain credit.

4.1.2 Case 2: “Yellow Marsh” Small Private Farm

The “Yellow Marsh” small private farm in Astana Oblast was established in 1997, and is located 350 km from the regional capital. It produces wheat on land that previously belonged to a sovkhos. In addition to producing wheat, this enterprise also manages a bakery, a flour mill, a small general store, and an auto repair shop. Before 1997, the manager worked as a mechanic in the non-agriculture sector.

When the sovkhos restructured, the manager of Yellow Marsh obtained a fleet of farm machinery by purchasing it from exiting state farm workers. In general, the machinery is in good condition, and the fleet is adequate for harvesting. If problems with machine parts arise, this small private farm has no problem finding spare parts, because the farm itself is a supplier. Parts are obtained wholesale from a company in Russia and sold in the general store the farm manages. Area farmers come to them with orders, which the store tries to fill on their trips to Russia. Farmers purchase spare parts at the store with hard currency or barter harvested wheat for parts.

4.1.3 Case 3: “Arzu” Small Private Farm

“Arzu” was one of the first small private farms to be established in Almaty Oblast. The manager remembers being “curious” about the possibility of operating his own farm, and began to collect land plots from exiting kolkhoz workers in 1990. The farm primarily grows vegetables: green peppers, tomatoes, and cucumbers to sell at the local market. The remaining hectares are used to grow sugar beets and hay.

When the manager exited the kolkhoz, he acquired one tractor and one truck. A second truck was purchased later. When the farm requires a combine, the manager barter

for the use of one or rents one from a local production cooperative. Many other local small private farms, which do not have combines, or lack spare parts with which to fix broken combines, obtain combine use in the same way. Demand for combine use is high, but small private farmers lack the capital with which to purchase a combine, and there are few in the area available for use. To accommodate this availability constraint, small private farmers gather once a year to develop a schedule of combine use. This way, farmers know a year in advance when they will be able to use a combine.

If farm machinery has mechanical problems due to parts failure, the manager has little problem locating spare parts due to the close proximity to Almaty the largest city in Kazakhstan. The problem Arzu and other local small private farms experience is inability to pay for spare parts. Spare parts are generally too expensive, therefore, much time is spent searching and negotiating for affordable spare parts.

4.1.4 Situations, structures and resulting performance

When the good is spare parts, high information costs in contracting and search are the primary sources of interdependence. Two contrasting, observed structures and resulting performance from the case studies will be discussed below in contrast to new alternative structures and predicted resulting performance. Proposed alternatives were selected based on their potential to direct performance. The performance outcome when the good is spare parts and the situational variables are transaction costs is the shifting of costs among stakeholders. Table 6 below summarizes the structures and the resulting performance when the good is spare parts.

Table 6: Situation, structure and performance when the good is spare parts

Situation	Structure	Performance
Spare Parts Suppliers Farm Managers	Institutions	Who pays how much?
<u>Transaction Costs:</u> I. HIC a. <u>Cost of contracting</u> – costly to enforce contracts b. <u>Cost of search</u> – costly in terms of time	<p>Farm restructuring creates:</p> <ul style="list-style-type: none"> 1. Barter - "<i>Justice</i>" case 2. Rent farm machinery - "<i>Arzu</i>" case 3. <i>Proposed alternative</i> - Contract farming <ul style="list-style-type: none"> 1. "Blat" (connections) - "<i>Justice</i>" case 2. Organize wholesale enterprise for spare parts - "<i>Yellow Marsh</i>" case 3. <i>Proposed alternative</i>-Organize resale of old machinery for spare parts 	<ul style="list-style-type: none"> 1. Buyer incurs costs by growing enough to barter; seller incurs costs if can't sell goods 2. Renter incurs costs in securing hard currency or barter goods; rental agent reneges and receives payment for unused capacity 3. Buyers with connections shift costs to buyers without connections <ul style="list-style-type: none"> 1. Buyers with blat shift costs to buyers without 2. Buyers benefit from lower search costs. If farmer is wholesale organizer, then farmer incurs search cost, but benefits in profit. 3. Buyers incur lower costs of search; asymmetric information increases
II. C-D gap	1. Transacting SOPs	1. Perceived probability of calculated mistakes reduced.

Cost of contracting

Terms of trade have been altered due to high contracting costs in the agricultural sector. (See Table 7). The process of input acquisition has experienced heightened costs

of contracting following the deterioration of input and output channels. All three cases above reveal use of barter in transacting for spare parts. Buyers pay in cash, whenever possible, but the opportunity is rare. Until 1998 the state government still had the authority to seize property and bank accounts in case of default on taxes. This practice encouraged barter trade and facilitated corruption in the agricultural sector. Barter is imposing several real costs on farms, especially the smaller and weaker farms, which most often engage in it. First, the non-transparency of barter transactions has created problems in the valuation of inputs and outputs. Second, transaction costs in marketing increase when farm managers try to match their output to the barter requirements of potential suppliers of farm inputs. Third, monopolistic input and output dealers become even more powerful when competitive forces are further suppressed (Gray 2000).

Table 7: Terms of trade in KZ: Tons of wheat required to purchase each item

	1990	1991	1993	1994
Tractor	76	150	367	310
Combine	50	50	230	580
Fertilizer (1 ton)	3	2	22	2
Fuel (1 ton)	1	2	30	3

Source: World Bank 1994

A worker at the PLL "Justice" explained that "only 30 percent of the wheat harvest is given to the elevator. The other 60 percent goes to pay utilities, taxes and input suppliers. If the harvest is bad, creditors will take machinery and other assets away, and farms become even more insolvent." Barter and the promise of in-kind payment has burdened many farms with huge debt loads, but there seems to be little alternative. Suppliers also incur costs if they are unable to sell the in-kind payment for cash. Despite

this risk, in Russia, local and foreign farm machinery manufacturers alike are engaging in barter transactions as a way to accommodate low purchasing power among farmers desperate for operable farm machinery. There are plans for foreign farm machinery companies to eventually provide micro-credit programs to potential customers as an alternative to barter.

In the case "Justice" we observe that a barter institution can result in high costs for both buyer and seller of spare parts, but there are other institutional factors besides high information costs that are impacting performance. Geographic factors and physical factors of the crop grown also affect performance. "Justice" is located near a very small and isolated village with only one grain elevator in serviceable distance. Farms in more populated areas could have more opportunities to sell their grain, in turn increasing their chances of paying creditors in cash rather than in kind. Also, when the product in kind is a seasonal fruit or vegetable, the sellers' chances of selling the product are greater than they are with some commodity crop such as sugar beets.

Rental of farm machinery by the "Arzu" small private farm is an example of how farmers with available farm machinery are willing to shift their power to the small private farmers in need to machinery use. With only very few machines available for rent, however, the individuals who rent the machines are in a position to engage in opportunistic behavior if they choose to by charging high rent. Farmers like the farm manager of "Arzu" have a difficult trade-off to make. They can either suffer an inability to complete their harvest due to an inadequate fleet of farm machinery or come up with the means with which to rent or borrow machinery. Purchasing new equipment is not an option for farms like "Arzu", which lack financial capital.

The farm manager of "Arzu" rents from the kolkhoz from which he exited ten years before, one of two kolkhozes within a 20-mile radius. From this association we can infer that rental negotiations are personal in nature. There is not enough evidence from this case study to know if there is positive or negative social capital between the negotiators. This distinction would vary the impact on performance. If there is negative social capital between negotiators, the rental agent would be more likely to hold up and take advantage of the renter. On the other hand, if the relationship is positive, the likelihood of a fair exchange for the renter is greater.

Proposed alternative structure: Contract Farming

When there are high costs of contracting associated with obtaining spare parts, contract farming represents a proposed, alternative structure. Establishing contracts with processors creates opportunities for farmers. The Kazakhstani food manufacturing company, Food Master, and the American company, Phillip Morris, are examples of companies that engage in contract farming. The advantage of contract arrangements is that they typically help participating farmers gain access to inputs and gain access to domestic and international markets. The disadvantage, in the case of contract tobacco farmers in southwestern Kazakhstan working for Phillip Morris, is that they are paid very low wages and suffer health problems due to poor working conditions. Food Master also contracts with farmers but aids in input acquisition only indirectly.

Governments can help to foster more opportunities for contract farming arrangements by providing incentives to local and foreign manufactures. They can also assist farmers in matching with companies, and develop a system of enforcement to resolve contractual disputes (World Dev'l Report 2002). Over time, farmers participating

in this type of formal contracting may be in a position to acquire more assets on their own and qualify for credit. Once farmers develop a reputation for consistently paying on time, their opportunities for acquiring more assets and buying available spare parts or new machinery will increase.

Cost of search

Cost of search applies mainly to the opportunity costs of the farmer during time spent away from the farm. Cost of search is high between the suppliers and the area farmers. In describing the process of acquiring inputs, one farmer in Astana Oblast explained that when acquiring inputs such as spare parts and seeds, “[We] all need to be a little devious.” Another farmer corroborates this claim. “If you have “blat” (connections) you can sell your product and buy inputs. Only those with connections can exist, although not profitable on paper in order to avoid paying taxes. Those without connections run after credit.” These statements speak to the importance of social capital in exchange relationships.

The PLL, “Justice”, relies on a network of personal connections when the manager goes to Russia looking for spare parts. The frequency with which the manager uses this network and exploits “blat” further reduces costs of search in the long run. Farmers, who have social capital with input suppliers, have the power to have their interests count. In this way social capital can serve as a contract enforcement procedure and can shift costs away from the farmers with “blat” to those without it. “Blat” has low exclusion cost characteristics, in that it is not costly to prevent an individual from entering the circle of favor, in turn excluding that individual from the benefits of being in

the network, such as improved access to knowledge of location and price of spare parts. “Blat” takes time to develop and maintain.

Evidence also suggests that developing positive relationships with local administrators can provide benefits such as increased access to information about location and prices of inputs and marketing opportunities. In the absence of secure property rights, trusting relationships can also serve as an enforcement institution and reduce the occurrence of nonpayment or delayed delivery of poor quality inputs. Otherwise, corrupt transactions persist. One farmer points out that it is important to remember that Communism eradicated the practice of religion, destroying the spiritual base of the population. Because of this, “the population is not afraid of spiritual punishment. It has effectively lost its conscience.”

This case shows how the observed structure, “blat”, can impact performance by shifting costs away from farmers with “blat”. In this case, the farmers on "Justice" also benefit from the close geographic proximity to Russia. There are many more market opportunities in Russia, of which not all farms in Kazakhstan can take direct advantage. Closer markets create increased opportunities for developing “blat,” in turn increasing social capital relationships with sellers, and reducing search costs for inputs.

A wholesale retail enterprise for spare parts as in the "Yellow Marsh" case is an alternative institutional structure. The manager of "Yellow Marsh" vertically integrated his small private farm in order to reduce the costs of search for spare parts. The "Yellow Marsh" is the only outlet for the purchase of affordable, new spare parts in the region aside from a store in the capitol city. The wholesale retail structure impacts performance by increasing farmers' access to new spare parts by shifting their cost of search to the

buyers for the "Yellow Marsh" retail store. The "Yellow Marsh" store also provides an advantage in that it will fill orders made by farmers for specific parts. A further advantage to farmers is that the store accepts in kind barter payments. Wholesale retailing increases the cost of search for "Yellow Marsh", but provides for positive social capital among the area farmers. The spare parts business has been a profitable business endeavor for "Yellow Marsh."

Proposed alternative structure: Resale of old machinery for spare parts

When there are high costs of search associated with the acquisition of spare parts, establishing institutional arrangements, which organize sale of new and used spare parts, reduces the cost of search. A parastatal represents a proposed, alternative structure. Several institutional business arrangements could be adopted to facilitate the purchase and sale of spare parts while reducing costs of search for farmers in Kazakhstan. As in the case of "Justice" farms can rely on blat or like "Yellow Marsh" farms can organize wholesale enterprise for spare parts. Developing the practice of working with parastatals could also direct costs of search away from the farmer. As economies develop and specialize, parastatals serve an important role in facilitating trade. Farmers repeatedly expressed in case study interviews that most of their time is spent searching for necessary spare parts. The opportunity cost of searching for inputs away from the farm is high, especially for the small private farmer with few available laborers on which to rely if searching requires extensive travel. Parastatals could reduce the time farmers are required to spend away from the farm searching for spare parts, reducing both cost of search and the opportunity cost of time spent away from farm operations. At the same time,

however, transacting with parastatals may increase information asymmetry as power shifts to the parastatals.

4.1.5 Summary

Three cases illustrate how alternative structures direct performance when the good is spare parts and transaction costs are high. The first case, the PLL “Justice”, responded to a situation of high transaction costs by transacting in the open market through barter and employing “blat” in order to shift costs of search away from the farm. The performance outcome when the structure is open market bartering is poor. That is, little evidence indicates that this structure shifts cost of contracting away from the farm. The second case, the small private farm “Yellow Marsh”, vertically integrated to become a wholesaler for spare parts. This new structure not only shifted costs of search away from the farm it served to reduce uncertainty for the farm. The third case, the small private farm “Arzu”, rented farm machinery in response to high costs of contracting in spare parts. The resulting performance was that, although costs of contracting may have been shifted away, costs of search for hard currency or barter goods were shifted to the farm. Contract farming and an organized resale of old machinery for spare parts were suggested as proposed alternative structures. A shift of contracting and search costs away from new governance structures is the predicted performance outcome. The behavioral regularity C-D gap was accommodated for in the observed cases, as farm managers reverted to old transacting SOPs when searching for and purchasing spare parts.

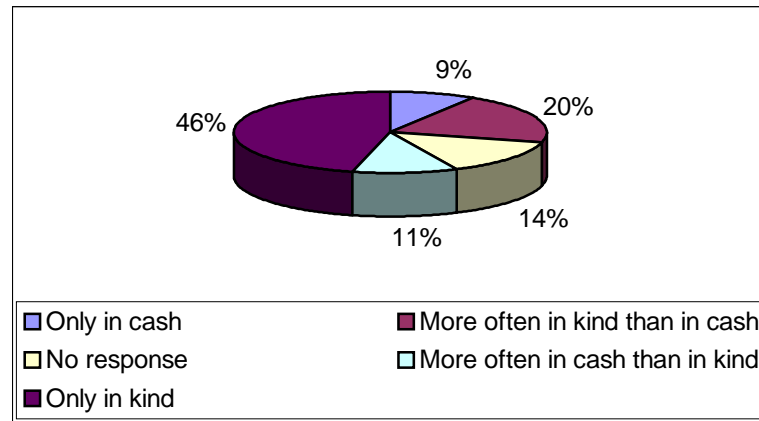
4.2 The Case of Labor – Overview of Situation

As part of the restructuring process, many farm enterprises shed workers. In contrast, some farms managed to retain all workers, preserving the same work force composition that existed under the Soviet regime. In this case, pensioners were kept on the farm to be provided for by farm management as had been practiced before 1991. Labor left restructured farms for several reasons: to establish individual family farms, to go into early retirement, to emigrate, to seek on or off farm employment elsewhere. Laborers who remained on restructured production cooperatives and partnerships with limited liability were often persuaded to relinquish their shares to management or risk the threat of losing entitlements to farm assets in the event the farm ceased to operate. Making adjustments to the work force is complicated for post Soviet farm managers. They want to hold onto good workers and let go of poor workers. The good workers, however, are generally those who exited at the beginning of farm restructuring to farm independently. For these capable workers there is incentive to leave, and very little incentive to stay. Conversely, for those workers who lack entrepreneurial skill, the only viable option is to remain on the privatized collective or state farm where non-payment of wages is the norm, and cultivation of private plots by farm employees is encouraged.

Since 1991, production per worker fell by 11 percent probably due to a lack of a performance-based wage policy which would give employees incentive to be more productive or because farm machinery is inoperable. In a study performed by the World Bank in 2000, 46 percent of farm workers indicated that they only receive wages in kind. (See Figure 3). The labor situation suggests that in the future Kazakhstan's agricultural

enterprises will have to release some of its labor force in order to achieve more efficient production.

Figure 3: Salary received in cash or in kind (n=600)



Source: World Bank Household Survey Kazakhstan 2000

Social welfare has declined to such an extent that some former collective or state managers feel obligated to make up for lack of services. That is, some managers are concerned not only with generating profit on their farms – but also they care for their workers. Previously, collective and state farms provided education and health services, and cultural programs for their workers. Some managers attempt to sustain these services and in such cases former state farms largely remain intact. For example, one manager from the case study grows fruit and vegetables not to sell, but in order to provide for his workers and their families. Another manager struggles to maintain activities like a local theater and health clinic.

Several situational variables create interdependence when the good is labor and represent sources of transaction costs on farm enterprises. Interdependence is created by high information costs and uncertainty. Sources of high information costs include costs of monitoring and measurement. Asymmetric information creates costs in assessing the

quality of workers' productivity. Behavioral regularities such as radical subjectivity and a C-D gap also create interdependence when the good is labor, impacting the farm director's decision to retain all workers as was done under the Soviet regime.

Three cases illustrate how alternative structural variables can be applied to a situation of high transaction costs to direct performance outcomes. Two cases involve production cooperatives in Almaty Oblast faced with the task of restructuring labor incentives. The third case shows how a small private farm manager from central Kazakhstan manages his work force. The stakeholders in a case where labor is the good are the farm workers, farm managers and, if applicable, brigade managers.

4.2.1 Case 1: *"Luch Vostoka" Production Cooperative*

The "Luch Vostoka" production cooperative, producing mainly sugar beets, vegetables and milk, was created in 1998 following pressure from the local government to privatize. It is located five kilometers from the commercial capitol, Almaty. This former kolkhoz chose to become a production cooperative on a suggestion from the previous and current manager. In pseudo-democratic fashion the manager proposed the idea of adopting the cooperative structure to kolkhoz members and every member agreed. In the manager's own words, "Nothing has changed. As we were, we are. In spirit, a cooperative and a kolkhoz are the same." These words reflect the reality of farm restructuring across Kazakhstan.

The manager has worked on the site of this enterprise for 31 years. After receiving a degree in economics from the Agronomy Institute, he worked on the kolkhoz as an economist. Most of the 250 workers on the production cooperative worked with the

manager on the same kolkhoz. There are 101 women and 149 men. The enterprise is administered by an economist, an accountant, and a veterinarian. Twice a month the manager gathers 5 to 7 brigade managers, which are responsible for specific groups of farm workers to discuss farm operations. The hierarchy of management on this production cooperative is such that brigade managers have assistants that supervise subgroups of employees and individual employees.

The brigade managers gather with the director to meet and discuss what needs to be done each day. As further supervision, the director goes to the field each day to check on things. Despite his careful labor management practices, the director admits that he “would have fired many workers long ago,” but he doesn’t want to see them on the street. There have been no new hires on the farm. The old norms for remuneration of labor exist on this PC to this day. For example, for as far back as the manager can remember it took one tractor six hours to till two hectares of land. This amount of work was valued at the equivalent of 300 tenge. The same system prevails. Bonuses are given at the end of the year, if there is a profit. The manager together with a team of brigadiers decides how shares of the profit are allocated.

4.2.2 Case 2: “Oskeldibi” Production Cooperative

The Oskeldibi production cooperative, which produces wheat and sugar beets, is situated 260 kilometers from Almaty on the site of a former kolkhoz. The decision to become a production cooperative in 1994 was based on considerations of land, workers, and assets following pressure from the government to privatize. The current manager has worked his entire life in agriculture at this location. He began as a mechanic after completing a

university degree, then became an engineer, and then an economist. He has achieved a higher level of education. This manager was elected to serve as farm manager in 1997 at an assembly of kolkhoz workers with the akim of the oblast present. In 2002 there will be another vote. Currently, there are 925 workers with skills ranging from economics, accounting, animal science, to agronomy.

Workers are hired based on their skill set. There is constant employee turnover at this production cooperative. Some workers emigrate from the country; some exit to find work off the farm. This cooperative also uses a system of brigades with which to monitor workers. During a meeting of cooperative members, all workers are part of the decision to hire new workers, according to the manager. Meetings of all employees also determine who is fired. Since 1993, nothing monetary has been given as wages. In place of money, farm workers receive goods that are produced on the farm or acquired cheaply like flour or macaroni.

The director experiences high levels of uncertainty. Uncertainty arises from the possibility that workers could leave with it at any time with their shares of the land diminishing the production capacity on the cooperative. For now, there seems to be an adequate amount of land for use by the cooperative.

4.2.3 Case 3: “Genghiz Khan” Small Private Farm

The Genghiz Khan small private farm grows wheat on 3,300 hectares of land leased from the manager of a former state farm and a few of its former farm workers. The farm is only accessible from a severely rutted dirt road primarily used by tractors for one hundred of the two hundred and fifty kilometers it takes to drive from the capital, Astana. The

small private farm manager moved from Arkhalikh, an economically devastated agricultural region about two thousand kilometers west of Astana, with his family, a few loyal workers and farm machinery from the farm enterprise he managed for six years in Arkhalikh. He jokes that he decided to farm these hectares, because on the way from Arkhalikh in 1999 it was here that his car broke down. It also happened that this was the site of a disbanded sovkhos, including a couple of farm buildings and some persistent former sovkhos workers of predominantly German descent.

The manager has a mechanical engineering background, and began working in agriculture eight years ago, when he recognized farming as a business opportunity. He manages a work force of fourteen. Ten workers he retained from his previous farm in Arkhalikh. He hired four more workers from the community that remained after the sovkhos in the area stopped operating. If he requires more labor, he hires additional workers from within this community. Generally, he pays his workers in cash, and the amount depends on skills and experience of individual workers. His farm provides the only employment opportunities within a 150-kilometer radius. Community members whom he does not employ maintain a practice of subsistence farming, and occasionally assist with farm machinery maintenance or input acquisition.

The general feeling is that Genghiz Khan small private farm brought life back into the community. The former collective construct has been replaced by a more pioneering endeavor that generates a sense of community. The manager relies on the community not just for labor, but also for community members' knowledge of input supply channels and the local governmental system. By his own admission, the manager spends most of his

time in the field with his workers supervising them, or together with them looking for fuel and spare parts for machinery.

4.2.4 Situations, structures and resulting performance

When the good is labor, high information costs in measurement and uncertainty are the primary sources of interdependence. Two contrasting, observed structures and resulting performance from the case study will be discussed below in contrast to proposed, and as yet untried, alternative structures and predicted resulting performance. Proposed alternative structures were selected based on their potential to direct performance. The performance outcome when the good is land and the situational variable is transaction costs is determined by the shifting of costs among stakeholders. When the situational variable is uncertainty, the performance outcome is the variation in levels of uncertainty for the stakeholders. Table 8 below summarizes the structures and the resulting performance when the good is labor.

Table 8: Situation, structure and performance when the good is labor

Situation	Structure	Performance
Laborers Brigade managers Farm Managers	Institutions	Who pays how much?
<u>Transaction Costs:</u> I. HIC a. <u>Cost of monitoring</u> – costly to prevent shirking b. <u>Measurement</u> – costly to measure MVP of labor c. <u>Asymmetric information</u> – brigade managers incorrectly report	Farm restructuring creates: 1. Brigade system- " <i>Luch Vostoka</i> " and " <i>Oskeldibi</i> " cases 2. Trust between manager and workers - " <i>Genghiz Khan</i> " case 3. <i>Proposed alternative:</i> Employee Stock Ownership Plan	1. Workers shirk, brigade managers incorrectly report-costly for manager 2. Shirking minimized at low cost to farmer; workers receive correct payment based on work 3. No shirking, new labor incentive system lowers cost of monitoring

II. Uncertainty – in wages for labor, in exiting farmers and diminishing land shares for farm managers	1. Labor tied to land - " <i>Luch Vostoka</i> " and " <i>Oskeldibi</i> " cases 2. Labor not tied to land - " <i>Genghiz Khan</i> " case 3. <i>Proposed alternative:</i> Collective action among laborers	1. Uncertainty high for farm managers of large farms 2. Uncertainty for manager reduced 3. Managers and workers are the same, perception of uncertainty reduced
III. C-D gap	1. Old SOPs – Soviet management style 2. Develop new SOPs - farmers fire poor workers	1. Poor workers and pensioners continue to create costs for manager 2. Costs for manager reduced; poor workers and pensioners costs increase
IV. Radical subjectivity	1. Managers develop and implement new labor incentives and farm management practices	1. Cost of monitoring decreases; new future is revealed

Cost of monitoring

To varying degrees all farm types experience cost of monitoring. There is a high cost of monitoring a work force to prevent moral hazard. The largess of kolkhozi and sovkhhozi coupled with a lack of incentives to maximize productivity made shirking commonplace even where monitoring was better. Interdependence on the production cooperatives, "*Luch Vostoka*" and "*Oskeldibi*", is created by high costs of monitoring of both farm workers and their brigade managers. Where the brigade system is still used on large farms, the C-D gap prevents workers from responding differently, and shirking persists. It is clear that the manager of the "*Luch Vostoka*" PC will not fire any of his workers, providing them with no other incentive to maximize productivity than the promise of a bonus on the profit the farm is unlikely to make. Shirking also persists on "*Oskeldibi*", which maintains a system whereby all cooperative members meet to decide

who will be fired. Workers are unlikely to turn in their co-workers and neighbors.

Because there are no repercussions if workers shirk, the brigade system is ineffective at producing workers that are more productive. In fact, it is likely that brigade managers incorrectly report in order to gain from bribes offered by shirking workers.

In some cases trust is applied as a structural variable to sort out the interdependence created by the cost of monitoring. In a situation where trust is applied, there are low information costs in monitoring. Shirking is a small threat on a farm like "Genghiz Khan" where there is trust among the workers and manager, and marginal productivity of labor is high. The World Bank (2000) reports that in many Eastern European countries, small private farms, which lack a division of family labor, are generally unsuccessful, but the "Genghiz Khan" small private farm makes up for its lack of a family network by establishing close ties with members of its adopted community. The case provides evidence that building social capital, which indirectly develops trust by establishing kernels of commonality serves to direct performance and reduce monitoring costs. That is, workers invest socio-emotional goods into their relationships with their manager that results in trust and raises the level of productivity among workers.

The behavioral regularity of the C-D gap can sustain Soviet management SOPs that are sub-optimal as in the case of "Luch Vostoka" where old management SOPs, such as the brigade system, result in perpetuated shirking among laborers. For example, under Soviet agriculture a tractorist (those who operate field tractors) habitually made the decision not to till the soil deeply, because the tractorist gets paid for each hectare farmed. There was incentive to farm as much land as possible in a given day, which meant that the land was tilled poorly, and hence was less productive. This behavior

persists on farms in Kazakhstan. The problem of land productivity is exacerbated today because farms are faced with severe input constraints and deteriorating land quality. In this type of situation, the cost of measurement of labor quality is high. It is imperative that farm managers not only communicate to farm workers clearly the need to farm efficiently, but also design appropriate incentives and create loyalty and identification with the firm (Simon 1991).

Proposed alternative structure: Labor incentive program

When there are high costs of monitoring associated with labor, innovative labor incentives represent a proposed, alternative structure that will reduce costs of monitoring. One way to reduce high information costs in labor yet to be instituted in the case studies cited is to allow employees to purchase shares of the farm. Technically, this was the arrangement on the former collective farms, but did little to prevent shirking. A more contemporary arrangement, such as an Employee Stock Ownership Plan (ESOP) would be more effective. ESOPs tie income directly to the profitability of the firm. If workers understood the positive correlation between hard work and wages, productivity could increase. A problem that could arise as a result of ESOP is free riders because of the high exclusion cost (HEC) nature of firm income. It is important to note that often managers are not able to pay workers on time and then usually only forbearance wages. Therefore, this arrangement would be most effective in dissipating path dependence on production cooperatives regarding worker-manager relations and would set a precedent for small private farms.

Allowing farm employees to own farm assets is another possible labor incentive that could shift the costs of monitoring. Given that farm assets are scarce, it is likely that

the incentive would be an effective one. Assets could be used as profit centers during employees' free time. For example, on large production cooperatives a tractorist could offer to till the fields of neighboring farms for a fee instead of the PC simply renting the tractor out. This way, there is not only incentive for the tractorist to work productively, but also to keep up with tractor maintenance. Another example involves a mechanic. If the mechanic owned his or her own tools, these tools could be put to productive use on other odd jobs from the community.

Uncertainty

Farm workers and managers experience uncertainty when the good is labor. Farm workers can never be sure that they will be paid and managers are not sure they will have the money to pay wages. Wages are generally distributed in one of three ways or combinations thereof: 1) cash payment, 2) portion of harvest, 3) nothing if self-employed. Likewise, managers worry about whether or not workers will leave with land shares. In Kazakhstan, labor is tied to land shares, because large farm governance structures, like production cooperatives, are often different from collective and state farms in name only, which in most cases have yet to demarcate their land shares. Both "Luch Vostoka" and "Oskeldibi" are maintaining large labor forces knowing that if they shed workers, they risk shedding land shares also. The result is uncertainty on the part of management and reduced efficiency of farm operations, while workers gain security.

The "Genghiz Khan" small private farm is an example of a case where labor is not tied to the land. In fact, the manager accumulated most of the farmland by purchasing user rights to land shares from the abandoned sovkhos community in which he now lives.

In this case, uncertainty is relatively low with respect to wages and diminishing land shares. Here there are incentives for the workers to keep their jobs by performing well, and for the manager to meet the needs of his workforce. It is important to note that the entrepreneurial savvy and respectful managerial style of the manager of "Genghiz Khan" are rare in Kazakhstan.

Proposed Alternative Structure: Collective exiting of laborers

When there is high uncertainty associated with labor, collective action among farm workers creates opportunities that support the rights of entrepreneurial farmers better than remaining on the restructured kolkhoz or sovkhoz. The collective exiting of farm workers represents a proposed alternative structure. Wage uncertainty creates costs that alter mobility and terms of trade. One way to reduce perception of uncertainty is for farm workers to act collectively. Evidence in the literature on post-Soviet farm restructuring suggests that by collectively acting to exit and starting smaller private farm enterprises, farmers enhance their opportunities for success compared to exiting alone (Brem and Buduru 2001). By law every farm worker has the right to land shares and farm assets if they choose to leave. By pooling land shares and assets, emerging farm enterprises are better equipped to start a new enterprise. Uncertainty in wage receipt is reduced when farmers are in a position to generate profit. When all farmers agree to invest in the farm enterprise, they are less likely to shirk, knowing that the profit, and hence their wages depend on their performance. Those who remain on the restructured kolkhoz or sovkhoz retain wage uncertainty.

Small private farms throughout Kazakhstan are struggling with the burden of inoperable farm equipment, land of marginal quality, and inadequate input supply. Often

small private farmers leave larger enterprises with the poorest quality assets. By exiting in groups, farm workers are creating opportunities for timely payment of wages among themselves, voting privileges recognized, and freedom to leave at any time with the right to sell back what they invested.

The partnership with limited liability, “Kiti”, in Astana Oblast illustrates how a group of farm workers can successfully organize. The group consisted of agronomists, economists, tractorists, and mechanics. They each agreed to invest in a new independent enterprise and left the kolkhoz they were on with allocated land and equipment shares. These assets, including a sizeable fleet of farm equipment provided the foundation the farm needed. In the beginning, the situation on the new PLL was difficult. A few of the workers did not have trust in the possibility of creating a viable farm enterprise, but conditions were arguably much worse on other farms. Over time, the situation on the farm improved, ten seasonal workers were hired and in 1999, the farm experienced its first profitable year.

One production cooperative (PC) went through bankruptcy proceedings in Kostanai Oblast, and converted to a Partnership with Limited Liability. The largest part of the PC’s debt consisted of back wages. Some workers received their wages and took assets in place of wages. The problem is that the value of assets was increased so much that several workers decided to unite and take assets in place of wages to use together on a separate farm. This example illustrates how the option to go through bankruptcy proceedings especially in northern Kazakhstan creates an opportunity for many farmers. Those farmers who missed out on the first wave of privatization when credit and good assets came relatively easily, have a second chance. Because declaring bankruptcy

effectively writes off the debt of bankrupt farms, restructured enterprises and new start-up farms alike have a second chance to employ their accumulated knowledge and experience of the last ten years.

4.2.5 Summary

Three cases illustrated how alternative structures direct performance when the good is labor and transaction costs and uncertainty are high. Two cases, the production cooperative “Luch Vostoka” and the production cooperative “Oskeldibi”, responded to high transaction costs by accommodating for a C-D gap and resorting to Soviet management SOPs like the brigade system. Continued shirking among laborers was the observed performance outcome. Managers of both production cooperatives also made the decision to retain the institution that kept labor tied to land shares. This structure resulted in no reduction in uncertainty for the farms. An alternative structure was observed in a contrasting case. In the face of uncertainty, the small private farm “Genghiz Khan” applied trust between the manager and workers to direct performance resulting in low costs of monitoring. Shirking was not a problem on the farm, probably because of the smaller size of the enterprise. The manager of “Genghiz Khan” exhibited radical subjectivity by no longer tying labor to land shares. As a result, uncertainty for the manager was reduced. Innovative labor incentives, such as the ESOP, and collective action among farm laborers were suggested as proposed alternative structures. Predicted performance outcomes resulting from these structures were a shifting of transaction costs and uncertainty away from new governance structures.

4.3 The Case of Land – Overview of Situation

Land quality varies from region to region in Kazakhstan. Land in the southern oblast, Almaty, is generally of good quality with adequate water supply. In the central Astana oblast, land tends to be less fertile, and water supplies are limited. In the northern oblasts of Kostanai and Petropavlovsk, historically, land quality has been good with sufficient water, but since the Virgin Lands campaign in the 60s, land quality significantly declined due to the spread of desertification and salinization.

In Kazakhstan land reform has been slow, but changes occurred more rapidly following the 1995 adoption of a new Land Code. This law makes provision for long term (49-99 years) lease-holdings (or land user rights) by individuals, while the government maintains ownership of the land. This arrangement indicates incompatible use in land between the farmer that cultivates the land and the government. Land can be either cultivated by the farmer or retained by the government. State interests count when the government retains formal factor ownership, because the farmer is left with some uncertainty as to what is in the farmer's opportunity set.

Leases can be transferred between individuals but there are limitations. In 1997 the government recognized the need to modify existing regulatory arrangements in order to escalate the process of agrarian reform. These new regulatory arrangements gave farm workers the rights to be issued title to land within the farming entity to which the farm workers belonged. This decree posed a problem because land was not demarcated, so that individuals only acquired title to a share of unspecified land. Land was only specified when an individual decided to leave the larger farm enterprise, and often the land received was on the fringes or of marginal quality, the better quality land coveted by the

farm director. Later in 1997, farms were instructed to demarcate plots and to issue titles of these plots to individuals, but this process has progressed slowly. In many regions, land remains undemarcated (Gray 2000). In principle, lease rights could be security for a loan or some other transaction, but the rural credit system has not yet developed to accommodate this possibility.

Land use rights in Kazakhstan constrain agricultural reform in that they do not allow land to be used as collateral by which to obtain credit, and thus inhibit market transactions. Developing rural land markets and a system of secure and transferable property rights could reduce some of the risk and uncertainty, which would in turn promote investment and development in the agricultural sector.

Institutional structural alternatives, which can lead to improved performance for farmers when the good is land, will only emerge in the long run once fundamental changes are made in the system of land use rights. In other words, changes in the laws governing land use are required to direct performance in favor of farmers who support the development of land markets. In the short run, there are opportunities for farmers to shift costs that arise from interdependence away, but they need to recognize these opportunities in order to take advantage of them. Furthermore, other farmers or individuals need to provide the opportunities such as making available land for rent. The following analysis identifies possible institutional alternatives used by farmers in the short run despite a system of land use rights that does not yet allow for secure land holdings and therefore prevents investment.

For the purposes of this impact analysis, land will define the good. Interdependence is created by inherent transaction costs in information and uncertain

future states of the world in addition to land's inherent incompatible use characteristic. Asymmetric information between the owner of the use rights and the buyer is a source of information costs in accounting for changing land use rights and in assessing quality of land parcels.

In addition to the inherent incompatible use and high information cost characteristics, there are policy uncertainties. Uncertainty is a source of interdependence caused by a structure itself, such as the existing land use arrangements. Farmers do not have secure property rights over their land shares and cannot count on the right to use current land shares in the future. Uncertainty renders farmers stationary and limits them to using only land shares that were demarcated and put in their names. They do not have the right to exchange land shares if quality of land is marginal. Behavioral regularities inherent in the situation of land are the C-D gap and radical subjectivity.

Three cases illustrate how alternative structural variables can be applied to a situation of high transaction costs and incompatible use to direct performance outcomes. Two cases involve partnerships with limited liability located in Astana Oblast. The third case shows how a small private farm manager from central Kazakhstan in Almaty Oblast adapts to the interdependence created by high transaction costs. The stakeholders in the case of land use rights are the farm workers, farm managers, farmer landowners, and government authorities.

4.3.1 Case 1: *“Eighteen Years of Kazakhstan” Partnership with Limited Liability*

The PLL, “Eighteen Years of Kazakhstan,” is situated 90 km from Astana. The enterprise went through a series of transformations. It originated as a kolkhoz, and then became a

production cooperative. In 1997, the enterprise restructured again to become a partnership with limited liability. The farm produces wheat and livestock. There are 140 cows and 1500 pigs. The manager of the farm has been working on this location since 1985. He has a university degree in mechanical engineering, and became the manager of the current PLL in 1998.

“Eighteen Years of Kazakhstan” controls 34,000 hectares of land. All hectares came from the kolkhoz during privatization. A government program instituted in the region in 1997 enabled the third stage of restructuring, which required turning individual plots over to the director. The manager is confident that these hectares are secure because of a governmental decree, which grants farmers their land plots for 99 years, at which point the land can be inherited by relatives. A caveat is included in this decree, which states that if hectares are not used for agricultural purposes for three consecutive years, the government has the right to seize those hectares.

This PLL has maintained a good reputation for using their hectares productively, and was rewarded for its stewardship by receiving hectares of land that the government had seized from a neighboring farm. The manager freely admits that he alerted the local authorities that his neighbor was not using his land productively, in order to obtain the shares.

In general, the quality of the land on this farm is satisfactory, but there does exist a salinization problem, which adversely affects the harvest. Further, water erosion on some parcels of land represents a threat to land quality. The manager thinks that land quality significantly impacts farm operations.

4.3.2 Case 2: “Atsarat” Partnership with Limited Liability

The “Atsarat” partnership with limited liability, located 350 km from Astana, was established in 1997 when the local government forced them to restructure the production cooperative that they had managed since 1992. There is little difference between the current partnership with limited liability and the former production cooperative. The manager speculates that the government wanted the production cooperative to become a partnership with limited liability because such enterprises are taxed more. For this reason, it is difficult to close down a partnership with limited liability. If a partnership wants to close down, it has two choices. It can try to sell assets and return land parcels to the State, or it can wait until the sector changes for the better or worse.

The farm is on the previous site of a sovkhoz. Atsarat produces wheat and cabbage on 9,130 hectares of land. Most of the land was given to the workers when the sovkhoz privatized, but the shares were not demarcated until the production cooperative changed its legal status to partnership with limited liability. Not all original workers wanted or were able to work the land, and so the partnership gained hectares from these exiting workers. When the farm became a PLL, an agreement was reached with the government to secure the land shares for a period of five years. At the end of the period, the farm will renegotiate another contract. The quality of land parcels is adequate, but there is a salinization problem that severely constrains harvest on 40 percent of the land cultivated. Atsarat would like to obtain more land, but there is none left in the area.

4.3.3 Case 3: “Sundiik” Small Private Farm

The Sundiik small private farm, located 60 km from the regional capital in Almaty, was established in 1994. The manager of this farm has worked on this land for 15 years, and

has a specialized degree in animal science. The farm produces primarily livestock on 46 hectares. Thirty-eight hectares are from the local sovkhos when it privatized. These hectares are secure for 99 years, at which time the shares can be inherited by relatives. An arrangement was reached recently with the government to rent eight more hectares for 50 years.

The small private farm would like to obtain more land shares, but there is no money with which to rent or lease land. The manager of this farm is worried that if a land market develops, land will only end up in the hands of the rich. He believes that only those who will use the land for productive agricultural purposes should have the right to use the land.

4.3.4 Situation, structures and resulting performance when the good is land

When the good is land and the structure is use rights, costly and asymmetric information and cost of search and incompatible use in land shares are the primary sources of interdependence. Observed structures and resulting performance from the cases will be discussed in contrast to proposed, and as yet untried, alternative structures and predicted resulting performance. Proposed alternative structures were selected based on their potential to direct performance. The performance outcome when the good is land is the determination of whose interests count – the farmer landowners or the managers. When incompatible use in land, factor ownership determines whose interests count. Table 9 below summarizes the structures and the resulting performance when the good is land.

Table 9: Situations, structures and performance when the good is land

Situation	Structure	Performance
Farmer Landowners Farm Managers	Institutions	Whose interests count?
I. Transaction Costs: a. Costly and asymmetric information b. Cost of search -between farmer owners and “buyers”	Broad institutional changes create: 1. Unknown use rights - options for land expansion unknown– “ <i>Atsarat</i> ” case 2. Administrative rights – lose right if idle - “ <i>Eighteen Years of Kazakhstan</i> ” case 3. <i>Proposed alternative</i> : Develop communication channel via farmer association	1. Neither manager nor landowner aware of opportunities 2. Aware landowners’ interests count. Unaware landowners’ interests do not count. 3. All farmers make more informed decisions. Their interests count.
II. Incompatible use	1. Factor ownership insecure - “ <i>Sundiik</i> ” case 2. <i>Proposed alternative</i> : Secure factor ownership 1a. Director administratively allocates land shares – “ <i>Eighteen Years of Kazakhstan</i> ” case 2a. <i>Proposed alternative</i> : Community and elected officials assign land.	1. Farmers cultivate unproductive land that should be pasture. 2. Poor land goes to pasture and is preserved. 1a. Some farmers get poor land. 2a. Farmers get average to good land.
III. C-D gap	1. Revert to no land market SOP, no investment	1. Quality of land declines, no incentive to cultivate responsibly
IV. Radical Subjectivity	1. Conceive of land markets including leasing and advocate for them	1. Land used as collateral, farmers’ interests count

Costly and asymmetric information

There is legislation concerning rental of land shares. The problem is that some managers and many farmer landowners are not aware of land expansion options. When one transacting party has less information than the other, that party's interests do not count. A "C-D gap" in farmers prevents them from conceiving of land as a product to be exchanged, and exaggerates perceived uncertain future states of the world. Instead of developing ways for adapting to emerging broad institutional changes, farmers in Kazakhstan revert to Soviet SOPs that directed their behavior when land use was managed by the State.

The manager of "Atsarat" would like to replace poor-quality land shares with more productive land, but gives no indication that he understands what expansion options are available to him. The manager of "Atsarat" may need to accommodate to radical subjectivity and exchange ideas with other farmers in order to invent new ways to expand. If farmers understood that they could rent out land, which they were unable to farm for lack of inputs, instead of fearing government seizure after three consecutive years of non-use, they could generate revenue from someone else who is able and willing to farm the unwanted land. Farmers, therefore, need to be educated about changing legislation, so that they can take advantage of economic opportunities.

Farmers can educate themselves, like the manager of the PLL "Eighteen Years of Kazakhstan," who used his acquired knowledge of land use rights, to gain hectares that had been seized from the owner of a neighboring farm. This is a case of asymmetric information. The manager knew more than the neighboring landowner and took advantage of them. This manager also managed to convince all of his workers to turn

their land shares over to him. In both instances, this manager had more information than the manager of the neighboring farm and his workers, resulting in an expansion of farmland. In other words, bureaucratic knowledge and connections direct performance so that the manager's interests count.

Proposed Alternative Structure: Communication channel via Nat'l Farmers Assn.

When there is costly and asymmetric information associated with land, expanded communication channels via the National Farmers Association represent a proposed alternative structure. The case studies reveal a fundamental lack of information pertaining to land use rights on the part of the farmers. Two institutional alternatives present themselves. First, the law on land use could be amended to eliminate the fear in farmers of losing land shares, causing land to be more productively used. The current land use law perpetuates unsustainable production practices, which often contribute to declining land quality, but changing the law is beyond the scope of this analysis. An alternative to rewriting the law is to create channels for communicating information about land use options. Some infrastructure is already in place. The National Association of Farmers and the Agrarian Party have established a network of private farmers. If informed of the option to rent land or transfer shares, even temporarily, farmers can make more informed decisions about their land use practices, rather than simply signing land shares over to new management as was done by the workers on the PLL "Eighteen Years of Kazakhstan."

Incompatible use in land

When poor quality land shares is demarcated and given to exiting farmers, incompatible use in land determines whose interests count. Farmers are faced with numerous constraints when they begin operating a farm privately: low input availability, unreliable farm machinery, no access to credit, and unpredictable climate. If poor quality land is added to the equation, the chances of farm failure are exacerbated. The structural alternatives observed when there is incompatible use in land are unique, because of the variation in terms for land use rights. Proposed alternative structures have been applied to each of the observed structures and performance outcomes are predicted.

Insecure factor ownership

Insecure factor ownership when the good is land creates costs for farmers. Many of the farmers interviewed in the case study indicated long-term leases between 50 and 99 years, but there is no official documentation to ensure that the government will uphold these leases. The manager of the small private farm, “Sundiik”, claims a long-term lease on his land, but at the same time is worried about the possibility of land markets. His concern is that the rich will buy up all of the land and use it for non-agricultural purposes, a clear indication that he has doubts about the security of his land shares. This mentality reflects the Soviet belief that land’s primary use is agricultural, and is consistent with the practice by local authorities of seizing hectares that are not used in an agriculturally productive manner for three consecutive years. The manager of “Atsarat” also bears the cost of insecure factor ownership, and thus is faced with a difficult trade-off. He can choose to continue cultivating his poor quality land shares, resulting in further land degradation, or he can choose to not cultivate the land, and risk losing idle hectares. For

fear of losing shares, managers continue cultivating poor quality land. The observed performance outcome of insecure factor ownership is, therefore, the unproductive cultivation of land that should be in pasture.

Proposed Alternative Structure: Secure factor ownership

When there is incompatible use associated with land, secure factor ownership represents a structural alternative proposed to make farmers' interests count. If farmers were certain that their land shares were secure, they would feasibly make more responsible land use decisions. One official believes that cultivating less land could result in higher quality agricultural products. He contests that, "not all of the land needs to be used, but farmers use it for fear of losing it." He goes on to describe the situation in more detail. "Farmers waste resources on a lot of land in an effort to produce a large harvest, not considering the demand of their clients. They end up selling a poor quality product for a low price, because they need to pay off their debts." The predicted performance outcome of applying secure factor ownership is an increase in decisions by farmers to use poor quality land as pasture, preserving it for future use.

Director allocates land shares

When the 1995 Land Code established a system of demarcating land shares to employees, it ignored the likelihood of opportunism on the part of kolkhoz and sovkhoz directors. Since land demarcation began, only a small percentage of land has been assigned to exiting farm workers. The land that has been assigned is often of marginal quality; the highest quality land shares retained for the directors' personal use. The manager of the PLL "Eighteen Years of Kazakhstan" is one of many farmers who

indicated in interviews that a portion of their land obtained from the former sovkhos or kolkhoz is of poor quality. On some of the land controlled by “Eighteen Years of Kazakhstan” there is evidence of salinization and water erosion that, according to the manager, adversely affects the harvest and is a threat to land quality. The observed performance outcome of managerial involvement in the assignment of land shares is that some farmers get poor quality land.

Proposed Alternative Structure: Community and elected officials assign land shares

A proposed alternative structure when there is incompatible use in land is to replace managerial involvement in the assignment of land shares with a group of community and elected officials. There is less incentive for community and elected officials to act opportunistically when assigning land shares to farm workers exiting farms to farm privately. The predicted performance outcome is that farmers will receive average to good land shares. The directors who previously assigned land shares will likely no longer receive as many high quality land shares.

4.3.5 Summary

Three cases illustrated how alternative structures direct performance when there is costly and asymmetric information and incompatible use in land. In the first case, broad institutional changes result in asymmetric information and interests of managers like the manager of the PLL “Atsarat”, who are unaware of their land use rights, do not count. In contrast, when bureaucratic connections are applied to administrative rights, such as in the “Eighteen Years of Kazakhstan” case, aware farmers’ interests count. A proposed alternative to these structures is the development of a communication channel linking the

National Farmers Association and farmers. This alternative structure could direct performance by reducing costly and asymmetric information for farmers, in turn farmers' interests would count.

When there is incompatible use in land, two alternative structures were observed in two unique cases. In the first case, factor ownership was insecure for the small private farm "Sundiik", and the observed performance outcome was the unproductive cultivation of land that should be pasture. The alternative structure, secure factor ownership, was proposed as a means of directing performance so that poor land goes to pasture and is preserved for future use. In the second case, the alternative structure is the assignment of land shares by the directors of kolkhozi and sovkhozi, which often results in the allocation of poor quality land shares to exiting farmers such as the manager of the PLL "Eighteen Years of Kazakhstan." The proposed alternative structure is to instead give the right to assign land shares to community and elected officials. This will reduce incentives to assign poor quality land shares, and the predicted performance outcome will be that farmers will be assigned more average to good quality land shares.

CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

This paper has addressed three research objectives pertaining to how emerging farm governance structures respond to an economic environment of high transaction costs. Case study research provided evidence to characterize successful farm governance structures, to describe how social networks impact performance in a situation of high transaction costs, and the effect of behavioral regularities on performance in Kazakhstan's agricultural sector. The paper concludes with a summary of key lessons learned, their implications for future reform initiatives, and a reflection on the limitations and ideas for further research.

5.1 Summary of key lessons from the case studies

Two key points emerge from the case studies of Kazakhstan's farm restructuring campaign. First, and perhaps most interesting, is the observation that behavioral regularities, in particular radical subjectivity and the competence-difficulty gap, greatly impact performance outcomes. In the face of bounded rationality, managers revert to general rules of thumb (SOPs). In fact, the case study reveals that behavioral regularities are the primary enabling and constraining factor in the process of agricultural reform. Farms are at a disadvantage when farm managers make decisions by reverting to Soviet SOPs in the face of uncertainty. In cases where farm managers demonstrate entrepreneurial skill and invent new ways of managing farm operations, there is a greater chance of success.

Broad institutional changes occur, but without a willingness to change on the part of farmer stakeholders', reform only haltingly progresses. North states that it takes longer

for cultural norms to develop than it takes to create formal rules. We see evidence of this in Kazakhstan when, for example, TACIS implements a marketing information system and it fails after foreign administrators move out. Abandoning Soviet management SOPs and accommodating for radical subjectivity by creating new ways to operate, such as acting collectively to farm, could escalate the speed of reform.

Second, social networks expand otherwise poor opportunity sets. Social capital and an understanding of community-specific social norms expand the opportunity sets of small private farmers and managers of large farms. Small private farmers benefit from kernels of commonality shared by other farmers, and by trusting relationships with suppliers and local officials. Large farms have greater access to financial capital and use these resources to capitalize on “blat” (i.e. connections). Opportunity sets change as institutions evolve and shift the Kazakhstan economy from command closer to market. The scope of opportunity sets depends largely on access to information fostered in social networks and the broad institutional changes taking place. Of course whether or not opportunities are recognized and taken advantage of depends on individual farmers.

5.2 Implications for policy and future reforms

Reforming agriculture in an economy transitioning from command to market requires far more than a simple decision to privatize state and collective farm enterprises. This, however, was the strategy used by many transition economies in the former Soviet Union. Then, when experts realized that privatizing was not enough, they proclaimed that successful reform also required other institutional changes. Broad institutional changes have occurred in Kazakhstan such as the establishment of legislation pertaining to land

use, taxes and bankruptcy. New farm governance structures emerged and farmers associations were founded. Informal institutions also developed as a way for farmers to adapt to a new operating environment. Some of these institutional structures create costs for farmers and some shift costs away. An effective reform strategy, therefore, includes a comprehensive assessment of formal and informal institutions and observed performance outcomes. Three implications follow for policy and future reform measures.

First, commitment to reform the agricultural sector by the government and by the farmers themselves has been a problem. There is difficulty in instructing farmers about the advantages of the emerging market economy when there appears to be little indication that advantages exist. Limited information and poor quality inputs increase the level of uncertainty faced by farmers, and may result in lack of willingness to try something new. New ways of countering perceived uncertainty for farmers need to be devised to increase stakeholders' commitment to reform. For this reason, increased information transferal to the rural agricultural population about reform goals by farmers associations, combined with concerted governmental efforts to address some of the current sectoral problems will likely help to facilitate the willingness to engage in reform in Kazakhstan.

Second, the rural credit system needs to develop to accommodate for the intense need for credit in the sector. Because commercial banks are reluctant to lend to farmers, the informal sector is the primary, if not the only, source of credit for farmers. Farms typically rely on input suppliers to finance purchases, mostly through barter, but this not only imposes costs on farmers in the short run, in the long run the valuation of inputs and outputs will continue to be distorted. A formal credit system for the agricultural sector is required to escalate the speed of reform.

Finally, the case of land in the study illustrated most clearly the importance of establishing secure property rights as a way to stimulate investment in the local economy. The development of property rights to farmers deserves to be explored more, because insecure property rights create costs for farmers. However, in designing property rights systems it is important to be sensitive to cultural beliefs about private property.

5.3 Issues requiring further research and limitations of study

The strength of this analysis is that it took inventory of some of the enabling and constraining factors of agricultural reform in Kazakhstan. Specifically, the analysis highlighted formal and informal institutions that direct performance in a situation of high transaction costs. As much as possible, the analysis took social, historical, and institutional factors into full consideration. There are areas that require further research due to the limitations of this study.

The case study revealed that farmers' perceptions about their world matter and direct the speed of agricultural reform. Knowing this, and recognizing the necessity of developing secure property rights in land, it would be useful to develop a study that takes inventory of farmers' preferences for land market development. Then, identify determinants for different preferences. This way, local bureaucrats and organizations like the National Farmers Association could better target their campaigns.

This study would have benefited from a more targeted selection of cases. If more variables had been held constant, such as origin of farm manager, crop, and location, more striking evidence could have been derived by comparing observed performance outcomes and results of hypothesis testing in the institutional impact analysis.

Furthermore, as broad institutional changes continue to evolve, and new farm governance structures emerge, it would be interesting to perform a similar analysis again on the same farms and see if the most successful farms remain that way.

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